The Journal of the American Medical Association

VOL. XXVIII. CHICAGO, ILL., JUNE 19, 1897. No. 25.

ORIGINAL ARTICLES.

THE LATEST METHODS OF TREATING CARCINOMA BY HYPODERMIC INJECTION.

BY EDMUND ANDREWS, M.D., LL.D.

PROFESSOR OF CLINICAL SURGERY IN THE MEDICAL SCHOOL OF THE NORTHWESTERN UNIVERSITY, AND SENIOR SURGEON OF MERCY HOSPITAL, CHICAGO.

The partial success of Professor Coley's treatment of sarcoma by the injection of the toxins of erysipelas and of the bacillus prodigiosus has aroused interest, and induced surgeons both sides of the ocean to experiment with other articles.

One of these is the extract of chelidonium majus. This is the ancient semi-domestic remedy called celandine. It is an acrid irritant having such energy that applied to the skin it causes inflammation and blisters, and applied to warts is said to destroy them by acting like a caustic.

Dr. Denicenco of Russia (*Wratsch, St. Petersburg*) experimented with it first in epithelioma of the lip, and having produced cures (by sloughing) he was led to use it in inoperable cancers of various parts of the body. He gives it internally by the mouth, applies it on the surface, and injects it into the tumor itself. Probably the whole effect comes from the injections, but of that I am not certain. By the mouth he gives from one and a half up to five grams of the extract dissolved in peppermint water in twenty-four hours. On the ulcerated surfaces of the cancer he paints twice a day a mixture of two parts of the extract of chelidonium and one of glycerin. For injection into the substance of the tumor he prepares a solution of extr. of chelidonium, glycerin and water in equal parts, and adds half of 1 per cent. of chloroform to prevent decomposition. One ordinary hypodermic syringe full is injected daily. Denicenco says that it causes pain, a severe chill, and a high temperature lasting until the next day. This series of symptoms does not always follow. I know of at least one case of cancer of the rectum in which there was no pain, chills, nor fever, and yet the patient derived great benefit from the treatment.

Denicenco describes the local effect as follows: "On the first days of the treatment the tumor softens and seems to melt; in three to five days fistulas appear at the places of the punctures; around these fistulas the neoplasm seems to be dissolved; in fifteen to twenty days the tumor separates from the healthy tissues and is expelled" (*i.e.*, it becomes gangrenous and sloughs out). "The enlarged lymphatic glands become normal." This latter statement is very important, if true, because it implies that the effect goes beyond the mere caustic destruction of the primary tumor, and cures the infected lymphatics, or in other words the glandular secondary tumors. If I understand him rightly, he does not claim that the secondary tumors are sloughed out like the primary, but that they are changed in character and "become normal." This opinion needs confirmation. The author asserts that he examined all the primary tumors microscopically, and was sure of their malignant structure.

Dr. Hunt of Dixon, Ill., sent a patient to me for examination and opinion. I found a malignant tumor of the rectum surrounding the entire gut about 2½ inches above the anus, and causing a stricture which amounted to an almost total obstruction of the bowel. The growth was firmly adherent to the walls of the pelvis and evidently inoperable. On consultation we agreed that it was best to try the chelidonium. Dr. Hunt and Dr. Grim arranged to carry out the injections, using a mixture of equal parts of extr. chelidonium, alcohol and glycerin. After three weeks trial, there was no softening. They then increased the strength to nearly pure extract (Parke, Davis & Co.'s). The tumor now softened, and soon sloughed away so extensively as to completely relieve the obstruction of the intestine and the distress of the patient, and causing a decided improvement of his health as well as of his comfort. One pretty severe hemorrhage occurred during the sloughing, but it was not exhausting. The parts being internal, it is impossible to say whether the whole primary tumor is destroyed, nor whether the infected lymphatics have improved in their condition, as was claimed by Denicenco.

This is a new treatment, and needs further testing, but I incline to think it will be found valuable in certain cases which are now considered hopeless because inaccessible to operative measures.

INTERSTITIAL INJECTIONS OF ALCOHOL.

Hassel of Nordhausen, Prussia, claims remarkable effects and even cures by injecting a solution of alcohol having a strength of 30 to 50 per cent. He says there is some pain at the moment of injection, but great relief from the pain of the disease. In tumors of the breast, he does not inject the tumor itself, but the connective tissue under and around it are liberally infiltrated with the alcoholic fluid by means of a syringe with a long pipe. The tumor shrinks and in many cases seems permanently cured.

Hassel of Germany, says the same thing substantially (*Therap. Woch.*, Oct. 11 and 25, 1896). He puts in from 5 to 20 cubic centimeters at once. The injections are made twice a week at first, and later once in two or three weeks. In fifteen out of eighteen cases of carcinoma of the breast the growth "dwindled gradually away until in a year there was nothing left of it but the connective tissue stroma, and there has been no return." The pains disappear and the general health improves in a remarkable manner. In five cases of carcinoma of the cervix uteri similar success was obtained.

Dr. Edwin J. Kuh of Chicago, reports one case. He deviated from the plan of Hassel by using absolute

alcohol, instead of a dilution. The patient could only tolerate three minims at first on account of the pain, but later endured with difficulty 30 minims. Dr. Kuh thinks the diluted form might have been better. The tumor was a carcinoma seated in the naso-pharynx. The reduction in size began after the seventh injection, and was apparently cured after the twenty-fifth. After four months there was no sign of return. He put the fluid into the tumor itself.

I have recommended the alcohol injections in consultation in several cases; but there has not been time enough yet to judge of the permanency of the cure, nor of the effects on the infected lymphatic glands. At present I advise it only in inoperable cases.

Dr. Young of Bloomfield, Iowa, uses the pure alcohol and puts it into all parts of the tumor itself. He claims some cures.

Hué of France, injects a solution of arsenic and cocain at intervals of two or three days, and later at longer periods. He claims good results and some cures, with freedom from pain.

Alexandro and others have injected methyl blue, and report the pains relieved and the tumors made to shrink and disappear.

Dr. C. M. Fenn of California, reports the injection of saturated solution of citric acid. He says it brings "instant relief" and some cures.

This whole investigation is yet in a crude and unfinished state, but it will go on to more definite results. If some injection can be found which, while curing the primary tumor, will have such a controlling power over the inaccessible secondary ones, as is claimed for the chelidonium, it will be of immense value. If this power over the infected glands is not finally proven, it will still be of great importance in many individual cases to atrophy the primary tumor and to relieve the distressing pains.

3912 Lake Avenue.

SURGICAL SHOCK.

Read before the Chicago Academy of Medicine April 9, 1897.

BY FENTON B. TURCK, M.D.

CHICAGO.

The experiments on animals for inducing shock were reported before the AMERICAN MEDICAL ASSOCIATION, May, 1896. In these experiments the color changes in the abdominal viscera were noted, the blood pressure in both arteries and veins in the peripheral circulation as well as the central. I will give a brief résumé of some of these experiments.

Experiment No. 1 showed that after exposure of the stomach and intestines to draught of air from an open window, temperature 58, profound shock resulted. The gastric veins within half an hour were all congested. Respiration shallow; pulsations weak. The chloroform was pushed to the extreme; animals stopped breathing. Withdrawal of chloroform and artificial respiration did not excite respiratory movements. The intragastric resuscitator[1] was introduced into the stomach, and hot water 130 F. As soon as the water returned from the other side of the double tube, and more hot water introduced the animal began to breathe. In twenty minutes there was a remarkable change in the color of the stomach. Instead of the blue dull color it became a bright red. In forty minutes the surface of the body became warm. The mouth showed a bright red color, in place of the pale livid hue. Pulsation became strong, showing increased arterial tension and the respirations became deep and uniform. This was repeated during the same period, and the second time the same phenomena were again presented. When the restoration of the circulation seemed assured, the abdominal wound was closed, leaving a permanent gastric fistula. The animal recovered and was exhibited in my lectures given at Jefferson Medical College, Philadelphia, February, 1896.

Experiment No. 2 was of a similar character. The pressure in the veins and the arteries was studied with a manometer to indicate the changes in blood pressure. During shock the veins and the viscera show increased pressure while the arteries a decrease. After the introduction of the intragastric resuscitator this condition is reversed.

Experiments 3 and 4 similar to 1 and 2.

Experiment 5 was a study of changes that occur by the observation of color of the viscera. The shades from the normal to profound shock, showing eight different stages; also standard changes of shades observed after the introduction of the intragastric resuscitator. Referring to the chart, No. 1 is the normal, No. 2 the first changes observed after shock, No. 3 and so forth up to 8. It is found that within three minutes after exposure shade No. 2 was observed, in eight minutes No. 3; ten minutes No. 4; fifteen minutes No. 5; half an hour No. 6. It required an hour and a half for No. 8 to appear. There was a marked difference in the shades of the intestine and the stomach; when the stomach showed shade No. 5 the intestines appeared shade No. 6 (after the introduction of the intragastric resuscitator). After thirty minutes the shade in the stomach showed No. 4, intestines showed No. 5. In forty-five minutes all the larger veins were apparently empty. In one hour the stomach showed shade No. 3, while intestines remained shade No. 4. (Exhibition of color chart.)

SHOCK BY THE INTRODUCTION OF TOXINS.

Experiment No. 5. Method. Stomach contents drawn off, from a patient suffering with dilatation of the stomach. One hundred cu. cm. injected into a dog weighing 15 kg. This is repeated in one hour. Evidence of shock observed. In one hour the surface was cold, the mouth and gums pale, and on opening the abdomen a deep injection of all the viscera was apparent. The animal was in shock. Introduction of the intragastric resuscitator, reduction of the shock is produced. The animal recovered. While a control under the circumstances carried out on a dog weighing 16½ kg. the animal died.

Experiment No. 7. Shock produced by operation on abdominal viscera. Long incision from xiphoid appendix to symphysis pubis. Operation for gastrostomy (Turck's valve operation). Operation for the Heincke-Mukilitz pyloplastic. Also Martell's operation for gastro-enterostomy. Within one hour the entire stomach and entestines showed a bluish color with all the veins congested. Respiration shallow; pulse 130; evidence of collapse. Hot water bag placed inside the stomach. Temperature of 125 raised to 135, in a moment there was a change in both the pulse and respiration, the high heat having an instantaneous reflex action. The color changes within two minutes. In fifteen minutes the veins grew smaller in size and the surface appeared more of a rosy color. Respirations not so shallow, pulse strong, show-

[1] For description of the instrument see Journal, Jan. 11, 1896, p. 79.

ing increased tension. Twenty minutes intestines began to change in color similar to the effect observed in the circulation of the stomach. The general effect was pronounced upon all the mesenteric vessels. Thirty minutes the congestion was reduced and arterial circulation restored. Water introduced had to be changed every five minutes and absorption of heat was very great. Water introduced at 125 and 130 returned at 110 and 105. The viscera was exposed for three hours. The animal made a good recovery.

Experiment No. 9. To determine the rapidity with which color changes take place in the abdominal viscera. Exposed to the cold draught No. 1 on opening the abdomen. Color No. 2 in five minutes; No. 3 in ten minutes; 4 in fifteen minutes; 5 in thirty minutes; 6 in forty-five minutes. Hot water bag introduced in ten minutes from the time shade No. 2 was evident. In other areas No. 3 shade was observed.

Experiment No. 10, April 7, 1896; assisted by Captain Appell, Assistant Surgeon U. S. A. The animal was placed on a hot water bed. The abdomen was opened to a draught of air; operation was made for valvular gastrostomy. In forty-five minutes profound congestion of abdominal viscera was apparent; congestion of all the viscera, gastric vessels, gastric epiploica, and senestra, and gradually became filled and the tortuous veins stood out in dark relief upon the livid background. The stomach, though congested, was cold to the touch and intestines likewise. All evidence of shock was present. Reflexes absent though the animal was not under the influence of chloroform at this time, or ether. Shallow and rapid breathing. Rapid weak pulse, surface of the body cold, gums and tongue pale; collapse was imminent. The intragastric resuscitator was introduced and water of 130 degrees. In three minutes the water was withdrawn at 110 degrees F. The effect of the hot water was instantaneous. A continuous stream was allowed to play through for ten minutes; breathing and pulse improved at once and the circulatory changes were manifest, probably due to the stimulation of the solar plexus, cardiac plexus. The veins diminished in size right under the eye, the red bluish shade taking place instead of the sluggish blue. In twenty minutes the animal breathed steadily, pulse "came up," and arterial tension was increased. The body grew warm; tongue and gums showed a natural color. It was evident to all present that the animal was out of shock in half an hour.

REPORT OF CASES AND METHOD OF TREATMENT.

The following cases are selected from a large number to illustrate the symptoms and physical condition found in shock, also the effects of the treatment by the intragastric resuscitator.

Case 1 was that of a woman 40 years of age, suffering from impaction in which she was found in an unconscious condition, surface of the body cold, pale, lips bluish. The intragastric resuscitator was immediately introduced into the stomach. Within fifteen minutes reaction was complete, consciousness was restored and in thirty minutes the surface of the body, hands and feet were warm and the patient out of shock. Following this the usual treatment was inaugurated to reduce the impaction of the bowel.

Case 2.—Mrs. K., age 36, was found in shock, resulting from acute gastro-enteritis. There was a cold sweat upon the surface, a feeling of impending death and anesthesia of the surface, pale and livid. The intragastric resuscitator was introduced into the stomach; within ten minutes the pulse became fuller, stronger and less rapid. The color began to change in the lips from a bluish to a reddish. Within half an hour the surface became rosy in color, hands and feet warm, and instead of the heat increasing perspiration, skin became more dry while under shock.

Case 3, operation on a case of carcinoma of the pylorus. The operation was a gastro-enterotomy. Murphy button anastomosis. On opening the abdomen on exposure to the air a red shade of the stomach was observed, and after manipulation of the viscera there were great adhesions, shade No. 3 was observed. In thirty minutes shade No. 4 was observed. At the same time breathing became vary laborious, pulse diminished, the lips became pale and there were other evidences of shock. The intragastric resuscitator was introduced into the stomach and the immediate effects could be observed under the eye. The change of the color of the viscera was apparent; with the reduction of the venous congestion, surface grew warm, the perspiration which stood out like beads upon the forehead, disappeared. All signs showed the reduction of shock within fifteen minutes.

Case 4.—A young football player in Lincoln Park was struck in the epigastrium. At the same time sustained a Colle's fracture. Was brought into the office insensible and after a moment recovered, calling for water; his eyes were leaden; slow respiration; surface cold; great anxiety. I introduced the intragastric resuscitator and the effect was immediate. The breathing became even, the pulse that was weak became strong, fuller, the color returned to the surface; the eyes bright. The effect of this was very evidently due to the use of the intragastric resuscitator.

Case 5.—Mrs. McG., age 45, case hemorrhage from the bowels; estimated loss of blood was over one quart. All the signs of shock were present including anesthesia, disturbance of vision, thirst, cold surface, lips blue, anxious expression; patient experiences the feeling of impending death. The intragastric resuscitator was introduced into the stomach and within twenty minutes the symptoms disappeared with the exception that the hands and feet were still cold, but within forty-five minutes the hands and feet also were warm. No other treatment for the reduction of shock was used. This was again repeated the next day and the patient felt so well after treatment that she requested a daily treatment, which was instituted for one week. Recovery complete.

Case 6.—Mrs. F., Presbyterian Hospital, called by Dr. Etheridge; been in shock two days and a half. The patient was moribund, mottled blue surface, could not speak, and impending death was apparent. The intragastric resuscitator was introduced in the usual manner and temperature at 130; observations made by the attending and house physician as well as myself. It was observed that the stimulation was immediate. The pulse that was before imperceptible could now be felt. Breathing improved and patient could speak. The physicians and attendants thought that there might be some hope for her recovery, but as the patient was already moribund, the blood having passed largely into the veins, and extravasation had occurred and the whole surface was mottled. When in this condition it seemed that nothing could restore her. The improvement in this case kept up for three

hours, when the patient gradually sank and died. It was instructive in this case, however, to observe in the extreme the profound effect that the hot water had upon the nervous centers and upon the circulation, including respiration and return of intelligence.

The seventh, eighth and ninth cases were cases of laparotomy upon the pelvic viscera. Shock was imminent in each case and in Case 9 the shock occurred also the following day, when the intragastric resuscitator was introduced again with the usual prompt results.

The last case that I report here tonight is one for an exploratory incision in which was found large adhesions, due to a pancreatitis, parapancreatitis hemorrhagica. The case was operated upon by Dr. Ferguson. The patient was found in shock; face was blue, especially marked about the lips; breathing became very labored, large beads of perspiration were found all over the face and was regarded as a case of shock. The intragastric resuscitator was introduced into the stomach and immediately the effect was manifest to all present. Within five minutes the color had changed from the bluish to the rosy tint. The perspiration disappeared from the face, breathing was again deep and regular, pulse restored. It was evident that the respiration of this condition was brought about promptly by the use of the intragastric resuscitator.

DISCUSSION.

Dr. JAMES G. KIERNAN—I can hardly agree with Dr. Turck that stimulation of the ano-genital center is comparable with that of the gastric centers. It has been shown by experiments on conditions of collapse resulting after anesthesia, and also on the conditions of coma resultant on opium poisoning, that the ano-genital center is one of the last centers in the body whose reflex action is destroyed, and is the quickest to react to excitants in the restoration of consciousness. For example, sixteen years ago I was called to a case of opium poisoning. The patient, a prohibition Congressman, went on a tremendous spree, as a consequence of which he had incipient symptoms of delirium tremens, and sent out for laudanum and took an ounce of it. All the usual methods to counteract poisoning from opium were employed without avail. The case was turned over to me with the benevolent intention of having me sign the death certificate, inasmuch as he had passed into the condition of opium collapse. I poured three drams of tincture of capsicum up his rectum. I have never seen anything act as quickly as that did. Since that case a large number of others have been reported independently, and my observations have confirmed with regard to the quickness with which this center reacts. Not only that, but a large number of observers have pointed out that this center is the quicker to be excited in failures after anesthesia than almost any other. This has been demonstrably the case with Dr. R. A. Murray in New York and a number of others who have followed his researches. I do not doubt, from the surrounding innervation of the stomach, but what Dr. Turck would get undeniably rapid and beneficial effects from this procedure. At the same time, I doubt very much whether if the shock had passed beyond a certain point, he would get quite as rapid and efficacious results from this procedure as from a similar one applied to the rectum.

Dr. WILLIAM L. BAUM—I have had no experience with the apparatus of Dr. Turck, but I have been making some experiments during the last few months at the Cook County Hospital on cases of erysipelas. In a number of cases in which there was present nephritis with scanty urine, where the patients were in a condition practically of uremic coma, with slow and labored respiration and very irregular pulse, particularly in old individuals, for want of any other therapeutic measure I could think of at the time, advised in one case hot injections of normal salt solution of the strength of six-tenths of 1 per cent., using a quart every two hours. This was kept up night and day for eight days, the patient receiving the injections every two hours. He passed not only large quantities of urine, but the casts diminished rapidly in number, and the patient was discharged as cured. Since that time I have had four other cases in which I have resorted to similar treatment, all of which have recovered and have been discharged as cured.

Another case in which hot water injections have been very efficacious was one that I was called to see in connection with Dr. Fütterer. It was a case of vesical hemorrhage. The hemorrhage was continuous for some forty-eight hours; there was also present hydronephrosis. The patient had at some time ulcerative endocarditis with marked symptoms of recent endocarditis. He was given hot rectal injections of the normal salt solution, as well as subcutaneous injections of one quart of normal salt solution on each side of the abdomen. In this case, as in the other cases, within almost half an hour the respiration became more regular, and the pulse also became more regular, full and strong. Whether in the latter case the marked improvement was due to the hot solution injected subcutaneously, I am not at present prepared to say. We have benefit from large quantities of hot water taken up by the mesenteric glands and the intestines, and we have rapid elimination through the kidneys. In the erysipelas cases the heat may have had a marked beneficial effect, because the change took place in an extremely short period of time.

Dr. D. W. ROGERS—I was very much interested in the remarks of Drs. Kiernan and Turck with regard to surgical shock, and consider the method of Dr. Turck especially commendable. The heat supplied by the hot water which is poured into the stomach is rapidly taken up by the tissues. In addition there is a nervous stimulus, but the heat which the body must have in order to carry on its functions is supplied by this hot water, for this simple nervous stimulus would in my opinion not be sufficient to resuscitate a case suffering from severe surgical shock.

Dr. W. X. SUDDUTH—The remarks of the last speaker bring up the point as to the causes of temperature. The old idea that temperature is entirely the result of chemic changes in the body has to be modified to a considerable extent according to recent observations. You may take an iron bar and pound it to a red heat without any chemic change taking place. It is then a matter of vibration, and so we find in the body that vibration is the principal cause of the development and maintenance of temperature in the body, and that temperature is to a very great extent, to be controlled through mental processes. We have unquestionably much that is to be commended in the method of Dr. Turck by raising bodily temperature by the immediate contact of the hot water, which may be accounted for on the same ground, because we know vibration is much higher in hot than it is in cold water. Whether this vibration is carried and taken up by the body directly, as Dr. Turck has mentioned, in the passage of the blood through the different portions of the body and marking its course, or whether it is simply through association, raising the temperature in that way, is an open question. Undoubtedly, we have a nervous stimulation which is more effectual in the raising of the temperature and the resuscitation of the patient than we have in its mechanical effect. We have, then, the temperature raised by reason of the increased rate of nervous vibration, and the strength or the ability to maintain that vibration is the result of the increased temperature which is induced by the hot water.

The old theory of oxidization being the principal cause of temperature is pretty generally accepted, but I think we have evident reason for attributing many of the changes in temperature to mental processes. Let us take fevers, for instance, where we have a temperature of 104 degrees, by purely passifying methods, by suggestion, the temperature can be dropped from 3 to 4 in from fifteen to twenty minutes without the use of any drug or the induction of any chemic change, that we know of, in the body. Even so where we have a subnormal temperature, by working on the emotions, we can raise the bodily temperature a number of degrees in a few moments. While suggestion is not an important part in the treatment used by Dr. Turck, yet we can not eliminate it from any process on the living human body, even where the patient is apparently unconscious. The facts are there is no such thing as unconsciousness short of death. I have proved that, in my experiments in the administration of anesthetics, I was able to get a response from patients under the most profound anesthesia, simply by keeping in touch with them when they were going into the anesthetic state. So Dr. Turck's remarks and conduct with the patient must have a direct effect in the resuscitation.

Dr. JAMES G. KIERNAN—I do not want unduly to swell the neurologic trend of the discussion at the present time, yet I can not but take issue with the position that local tissue change irrespective of nerve action underlies the results, as Dr. Turck has claimed. This seems to be turning back the page of pathology to the days of Broussais when such a doctrine led to an abuse of venesection because fever was regarded as a result of such local change. Fever, as the researches of

Ott of Pennsylvania, have shown, is primarily set up by an increase of heat production beyond that of heat dissipation. An agent from within or from without deranges the harmony of the thermotaxic, thermogenetic and thermolytic apparatus by which in the initial stage the metabolism of the tissue are usually increased temporarily, this increment being greater than that generated upon the restricted amount of nutriment. Once established, the fever continues not from excessive production but from an altered relation between heat production and heat dissipation. Fever is not a fire kept up by an excessive oxidation of the constituents of the economy. Thus heat production may really be subnormal, yet the bodily temperature may be at high fever heat. The thermotaxic centers of the brain maintain the balance between heat production and heat dissipation so as to keep the temperature at 98.4 degrees F. In fever these thermotaxic centers are disordered; it is mainly the basal thermotaxic which are so affected that disturbance of the relation between heat production and heat dissipation produces a higher temperature. Since the peripheral terminations of the sensory nerves influence a thermolytic center by reflex action they constitute important factors in heat regulations. It seems to me, therefore, from the description given by Dr. Turck, that the comparative rapidity with which this treatment acts would imply such a reflex action on certain vaso-motor centers and on certain heat-regulating centers, because the condition of surgical shock is essentially one of extreme heat inhibition. To reverse that condition excitation would be physiologically indicated along the line stated by Dr. Turck. He could thus excite a large number of centers quickly through the stomach. It would seem that a reverse physiologic process would be desirable, and if there be need to stimulate the thermo-excitatory centers, it can be done better by a method of this kind than by a procedure implying merely local thermic excitation, which is very slow. As to the ultimate origin of this stimulation, in all probability, like all nerve force, it is allied to vibration. But be that as it may, to refer it simply to a local chemic action would be going a long way to ccomplish a small result. Furthermore, transmission ofheat a must be more or less through the nervous system, and not direct.

Dr. WILLIAM A. PUSEY—In the interest of orthodox physiology and physics, I would ask Dr. Sudduth and Dr. Kiernan if they mean to maintain that the heat of the body is not the result of metabolic changes of exactly the same character as those that produce by oxidation the heat in an ordinary fire? I may have misunderstood Dr. Sudduth, but my understanding of his remarks was that the nervous system not only regulated heat, but was of great importance in the production of it; that the production of heat in the body was not, at all time, simply a question of the transformation of physical energy. Am I right?

Dr. SUDDUTH—You are correct.

Dr. PUSEY—The position is so contrary to the accepted doctrines of physics that it seems to me it should not be allowed to pass unnoticed. I accept all that Dr. Sudduth and Dr. Kiernan say with regard to the influence of the nervous system in regulating temperature and know that we may have all sorts of aberration of temperature when the heat center is interfered with. I accept the statement that the heat of the body is merely a form of energy—that is the point I am maintaining—but to assume that the nervous system can produce heat without a material foundation for it, can evolve *de novo* and from nothing material, is a position that it seems to me should not be allowed to pass unchallenged in this Academy.

Dr. KIERNAN—I would ask Dr. Pusey, without attacking his position, whether he believes in such a doctrine as correlation and conservation of energy.

Dr. PUSEY—I certainly do. It is because the positions enunciated are in conflict with this universally accepted law of the conservation of energy, that I take exception to them. I will gladly agree with the proposition that the nervous system is the thermostat, but that it is anything more than a very significant part of the human furnace is a proposition which is so contrary to the accepted laws of physics and physiology that with the shades of Michael Foster staring me in the face I can but protest against it.

Dr. D. W. ROGERS—Exactly what Dr. Pusey has said is something that came into my mind. No one will deny from the experiments that have been made during the last twenty-five or fifty years, that heat is a form of vibration, and that by pounding a piece of iron we can get it red hot. As Dr. Pusey has said, the heat generated in our body comes from the food which we take into it. The idea of calling the nervous system a thermostat is an excellent one. We might consider the body an automatic furnace, regulated and controlled by electric devices. Regarding the experiments of Dr. Turck, the hot water which he pours into the stomach supplies the place of heat made in a normal condition of the body by the chemic processes controlled by the nervous system, and this heat is not taken up by the body simply through an increased stimulus to the nervous system, but by the transmission of vibrations from the hot water to the tissues of the body itself. Mental processes, it is true, have much to do with the production of heat, inasmuch as these processes control the nervous system, control the impulses going to various parts of the body, and if a heat inhibitory center is excited (we are supposing, for instance, we have a heat inhibitory center) the metabolic processes in various parts of the body would be checked, and the heat would be lessened.

Dr. WILLIAM L. BALLENGER—I have seen neurasthenic cases with cold skin, feet and hands, and I have seen them come out of this condition of shock or collapse by simply following deep breathing exercises for a few minutes. Undoubtedly others have seen the same thing. I narrate the above as suggestive. It is one of the ways in which the temperature of the body may be regulated. Dr. Turck's experiments upon animals are very instructive, showing the physical changes which take place in the blood in conditions of shock, and the changes which occur under the influence of heat applied to the stomach. His work is deserving of praise and commendation.

Dr. TURCK (closing the discussion)—I have presented these experiments and clinical observations just as they appeared, and it is impossible at present to explain the phenomena completely. But there are facts here that can not be disputed. First, the congestion of the abdominal viscera in shock, and this congestion is apparently commensurate with the loss of temperature and also with the lack of tone of the nervous system. To completely analyze these phenomena would require more knowledge than we have at the present time; but the facts are stubborn, that we can not apparently experimentally produce a profound shock without the occurrence of congestion and that the reduction of such shock does not occur until we reduce the congestion and distribute blood over the surface. The blood that is being distributed over the surface is warm blood. Energy is transmitted and as this energy is carried on we see the effect upon the arterioles. I could not recite all the experiments here, because I have previously published some and others are to follow. Let us take the simple introduction of water into the colon; we often produce a condition of congestion rather than of reduction. The patient feels the shock of such a procedure. He is momentarily stimulated, but soon relaxes into a state of congestion, the hands and feet become cold, and the patient will feel weak. Whereas, if we use water of high temperature the reverse condition is produced. We have a vasomotor stimulation. Inasmuch as water at a high temperature, introduced directly into the viscera is contraindicated, we use this method of introducing it through a tube, and if I may use another term, the absorption of that heat is constant. I have presented these facts as possibly opening up further investigation in determining the exact cause of the phenomena of shock and also the *rationale* of the reduction of shock.

INTESTINAL ANASTOMOSIS.

Read before the Illinois State Medical Society, May, 1897.

BY JACOB FRANK, M.D.

SURGEON TO THE ST. ELIZABETH AND GERMAN HOSPITALS.

CHICAGO, ILL.

The subject which I am about to touch upon is an ever interesting one. I would like to relate the early history of our instructors in surgery, in the line of intestinal anastomosis, but were I to attempt such a task I would be called a monopolist of time. Suffice it for me to state, that they, even 150 years ago, realized the necessity of some speedy and safe method for dealing with this most important branch of surgery. They were evidently not satisfied with the suture method, as is manifest by their numerous attempts to call unto their aid mechanical means, such as steel rings, rawhide, turnips, bone, catgut, rings, gelatin, etc. Denan, in an article in "Receuil de la Société Royale de Médecine de Marseille," l'an 1826, described his device for intestinal anastomosis, consisting of steel rings connected with a spring, and laid stress upon the pressure necrosis to be obtained from

the spring. To accuse our predecessors of futility of effort, even though their labors seemed apparently in vain, would be doing them a great injustice, for had we not the results of their trials we would probably travel over the same course, and, after all, our present and most modern contrivances are simply improved and newly evolved measures.

Permit me to carry you into a more modern era, a period of time which is fresh in the mind of every surgeon, *i. e.*, 1888, when Senn, with his decalcified bone plates, opened the path for the exit of the Czerny-Lembert suture. The plates, although used quite generally for a time, were not deemed applicable in all cases, and served the purpose of stimulating us to further improvements.

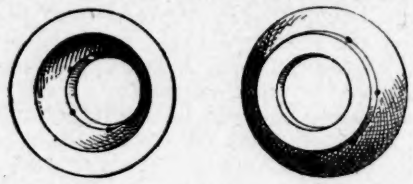
In 1892, Murphy surprised the surgical world with his metallic button, which reduced the length of time required to perform an intestinal anastomosis to about thirty minutes. I believe I will be upheld by all present in the statement which I am about to make, and that is, were Murphy's button soluble we could wish for nothing better. But since it is not it will always create a certain degree of fear in the minds of surgeons who are about to introduce the same, this said fear being substantiated by the reports which come in every now and then, of an obstruction following its use; less often, an ulceration through the bowel into the peritoneal cavity. That contrivance which will answer all the essential purposes of the button and which has added to it the great advantage of at least partial solubility, will sooner or later displace it. I beg to quote from Dr. Murphy's article his claims for this contrivance. They are:

1, Time, reducing the duration of the operation to at least half its former length; 2, extreme simplicity of technique; 3, automatic retention of position; 4, entire independence of sutures; 5, it produces a pressure necrosis and adhesion of surfaces at the line of necrosis; 6, it insures perfect apposition and therefore obviates the danger of displacement; 7, its applicability to the lateral as well as to the end-to-end approximation; 8, it produces a linear cicatrix, thereby insuring a minimum of contraction; 9, edge-to-edge union of same intestinal coats.

I claim for my contrivance all the above good qualities, with but one exception and a few additions. The first difference is, that while the claim, "entire independence of sutures" could be maintained, it is not, as it has been strongly impressed upon me during my series of experiments, that a few Lemberts never do any harm, and the good that follows their use more than compensates for the two or three minutes required to insert them. Besides, I have on several occasions found it necessary to use a few Lembert sutures with Murphy's button. I also claim for my contrivance, lightness, which is of great importance, as the intestines can float it, and this obviates a possible bend or spur, and last but not least, is the partial solubility of the apparatus, leaving but a small piece of soft rubber tubing (the rubber tube can be split in two longitudinally if required) to pass away, which is not apt to cause obstruction nor ulcerate through the bowel.

Since the last publication on this subject I have had the pleasure of receiving the good news of a successful gastro-enterostomy with the aid of the decalcified coupler, performed March 16, 1897, by Dr. McCandless of St. Louis. The rubber tube passed on the thirteenth day. The patient left the hospital on the twenty-fourth day after the operation.

I wish also to add a successful case of end-to-end anastomosis, with the coupler, for strangulated hernia, eight inches of gangrenous bowel being resected. The operation was performed by Dr. Kramps April 13, 1897, at St. Elizabeth's Hospital, in the presence of Drs. Hall, Wallace and Leland. The rubber passed after forty-eight hours and the lady, who is 49 years of age, is well and attending to her household duties.



A B

FIG. 1.—Decalcified bone collar. A, inside view; B, outside view; natural experimental size.

Up to three months ago the contrivance had not, to my knowledge, been used upon the human subject. It is more gratifying to me to have others attain good results with the coupler than were I to obtain them myself. I have been called upon to operate for strangulated hernia seven times in the past eleven weeks, but was unfortunate in always getting at the operation before strangulation had gone on sufficiently to demand resection of the bowel, and as all the cases made an uneventful recovery I have nothing to regret.

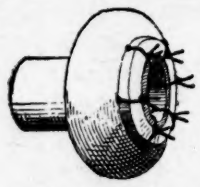


FIG. 2.—Bone collar sewed to rubber tubing.

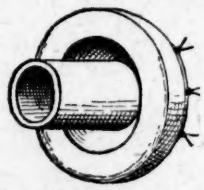


FIG. 3.—Inside view of collar with rubber tubing sewed on.

The apparatus consists of two decalcified bone collars (Fig. 1) with six needle hole perforations at the apex or shoulder of each collar, and one piece of ordinary pure gum rubber tubing, seven-eighths of an inch in length and five-sixteenths of an inch in diameter, the kind used for drainage. It is prepared for use in the following manner: A collar is slipped over a piece of rubber tubing of the dimensions stated, until the apex is brought to a level with the end of the rubber tubing, when an ordinary medium-sized curved needle, threaded with No. 8 braided silk, is carried through each opening and tied; this, as can readily be seen fastens the collar to the tube; the other collar is next fitted snugly to the one already

FIG. 4.—Decalcified bone collars sewed to rubber tubing ready for use.

fastened, and is then in like manner sewed to the other end of the tube and placed in absolute alcohol until they are to be used. The rubber tubing to which the collars have been sewed, being hollow, serves subsequently for the passage of the intestinal contents after being placed *in situ*. (Fig. 4.)

It will be observed that the bases of the collars, which are formed into a broadened rim, are being held firmly in apposition throughout their entire circumference. Now the intestinal ends are brought over each collar and crowded within the line of junction

of the two; of necessity the latter are forced apart, and the rubber tube is put upon the stretch, thus affording pressure of adequate amount to cause a necrosis of interposed intestines. The collars dissolve in due course of time, but a small piece of rubber tubing is left in the intestinal canal to pass off with the feces (Fig. 10).

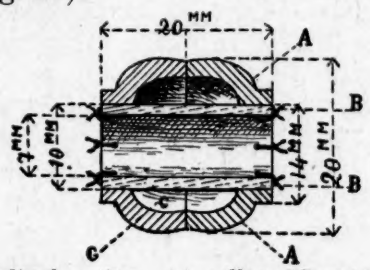


FIG. 5.—Longitudinal section. AA, collar; BB, rubber tubing, 10 mm. in diameter; C, cavity in collar; 7 MM, inside diameter of rubber tubing; 20 MM, length and width of collar.

The collars are carved out of sound, very compact bone, which is obtained from the lower hind legs of 4-year-old oxen. The collars are now subjected to the decalcifying fluid, which consists of a 10 per cent. solution of absolute hydrochloric acid, and are removed from this fluid in six hours and placed under a stream of cold water for half an hour to remove the salts which have formed. They are then placed in a fresh decalcifying fluid of the same strength, and the process is repeated until they are completely deprived of their calcareous constituents, when they are washed with cold distilled water, so that all traces of acids and phosphates are removed and the collars have acquired an almost transparent appearance. Then they are practically dehydrated by treatment with pure cologne spirits, and finally, immersed in absolute alcohol, which renders them sufficiently tenacious for their purpose.

Having described the apparatus, its mode of preparation and construction, the experimental work upon dogs is next to be explained. As nearly as possible the same aseptic and antiseptic precautions were

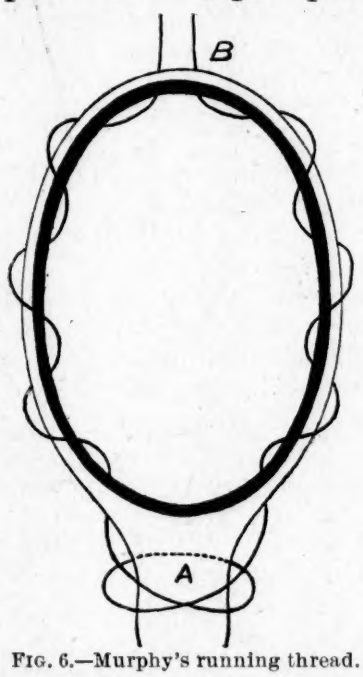


FIG. 6.—Murphy's running thread.

observed with regard to the hands, instruments, field of operation and dressings as modern surgery teaches us to observe in a laparotomy upon the human subject. The dogs that were fed upon fluids prior to the operation gave less trouble at the time and thereafter than dogs otherwise fed. A dose of castor oil given the evening before the operation always cleanses the intestinal tract, and the dogs seem to do better after this.

The general technique.—A median incision from three to four inches in length is made either above or below the umbilicus, the small intestine is drawn out through the wound and the part to be excised is gently freed of its contents by drawing it between the

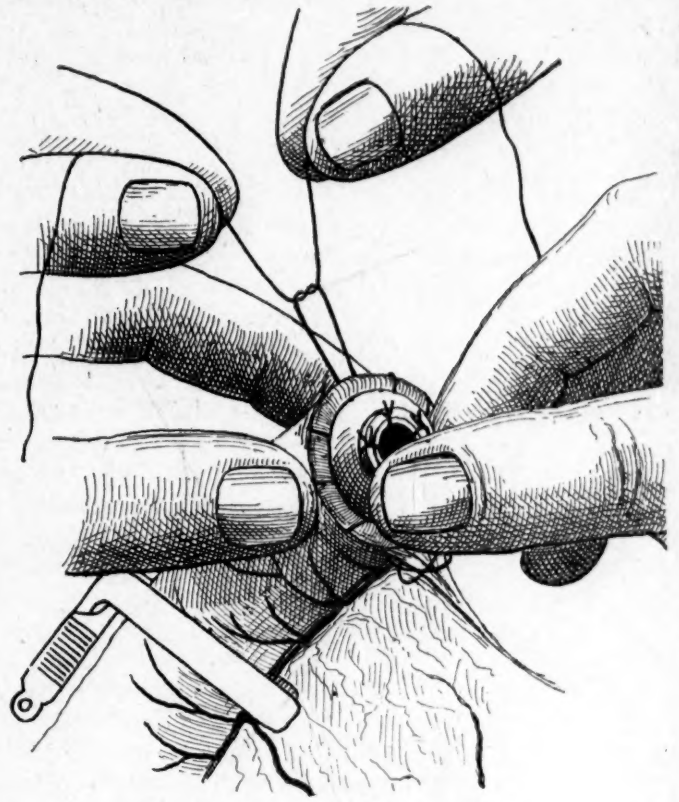


FIG. 7.—Manner of introducing collars.

thumb and index finger, when an intestinal clamp is placed at each end of the portion to be cut away, care being taken not to cut too close to the clasp, for if this is done there will not be enough gut to bring over the collars, which will necessitate the removal of the clamp farther back. The main mesenteric branch supplying the excised portion is first ligated with a No. 9 silk. From two to five inches of gut may be resected, according to the fancy of the operator.

Upon severing the intestine, it will be observed that

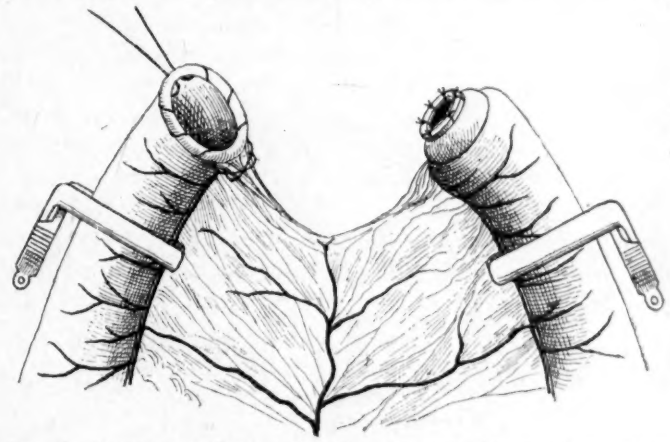


FIG. 8.—Showing collar in place in one end, the running suture in the other.

there is an eversion of the edge of the bowel, and also a contraction, producing a circular constriction at the end of the intestine; this can be easily overcome by inserting a finger into the lumen of the gut and retaining it there for a minute or two, thus producing temporary paralysis, and allowing a much easier manipulation of the parts; this stretching of the gut must

be gently performed, otherwise the peritoneal covering will split longitudinally. The everted mucosa should be curetted away for the following reasons: 1. I have satisfied myself that it plays no part in the healing process. 2. The running thread of Murphy (Fig. 6) is more easily applied, and the danger of merely taking up the mucosa and not the other coats is done away with. 3. It permits of nicer coaptation, as, without curetting, the mucosa pops out between the couplers as a pulpy mass. A straight or curved needle threaded with No. 6 silk is used for inserting the puckering string (a description of which can be found in the New York *Medical Record*, Vol. xlii, p. 673, 1892) to fasten the intestine about the rubber tube after the

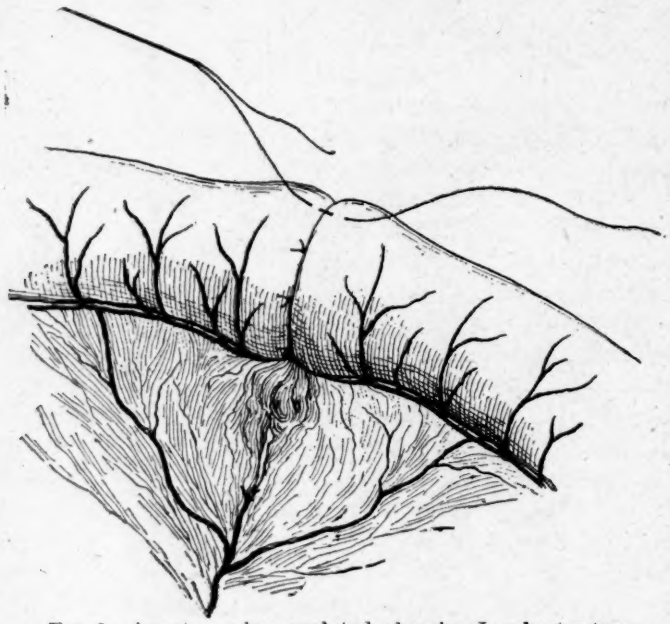


FIG. 9.—Anastomosis completed, showing Lembert suture.

former has slipped over the collars. The puckering string is similarly inserted into the other intestinal end, and the coupler, having been previously prepared as described, is taken out of the absolute alcohol in which it was placed. The operator slips an intestinal end over one of the collars, to the line of junction, at the same time gently spreading the collars apart to facilitate the easy access of the gut. An assistant takes charge of the ends of the puckering string, and when the gut has been brought over the collar he makes one knot, and draws down until his puckering ligature strikes the rubber tubing, which he will perceive by the resistance offered; the tube

FIG. 10.—Rubber tubing showing puckering thread in center and sutures at ends after bone collars had dissolved. Experiment No. 4.

will not generally permit a too tight drawing of the puckering ligature on account of its resiliency, but to make absolutely sure that the tube is patulous, the end of a forceps or sterilized nail may be passed through the lumen; if this is found pervious the assistant finishes the tying of the puckering string. The other intestinal end is then slipped over the other collar and also tied. Of course, at this stage nothing can be inserted by which to determine that the tube is not shut off, but, after having tied one side, the assistant will know positively when he strikes the tube. The ligature is cut off short and the clamps are immediately removed, when the operated portion of the bowel will be slowly distended with gas. An interrupted or continuous Lembert suture should be taken around the border, with an intestinal needle threaded with a No. 2 silk, to make the work more secure. (Fig. 9).

The rent in the mesentery may or may not be sewed. In those cases that were sewed, catgut was used; any bleeding vessels should be tied with catgut. The intestine is returned into the abdominal cavity as nearly as possible in a straight line, the site covered with omentum, and the abdominal wound closed in the ordinary manner. The wound is powdered with iodoform and a collodion dressing applied; gauze and cotton are placed over this, and then the bandage.

In the *Journal of Medicine*, January, 1897, will be found a detailed report of the experimental work.

17 Lincoln Avenue.

THE CAUSES OF DEATH IN ABDOMINAL SURGERY AND THEIR TREATMENT.

BY J. WESLEY BOVÉE, M.D.

PROFESSOR CLINICAL GYNECOLOGY COLUMBIAN UNIVERSITY, GYNECOLOGIST TO COLUMBIA AND PROVIDENCE HOSPITALS AND VISITING SURGEON TO WASHINGTON ASYLUM HOSPITAL.

WASHINGTON, D.C.

Great advances have been made in abdominal surgery during the past two decades and the mortality rate has been very materially reduced. As a fair illustration of this progress hysterectomy might be mentioned and may be said to have changed from an unjustifiable operation with a mortality rate varying from 80 to 90 per cent., to one of the most common of abdominal operations having a fatality of about 5 per cent. It is not necessary to state that this wonderful change is the result of the peculiar special attention devoted to this line of work. But contentment should not exist with a death rate following operation in this region, slightly less than that of unoperated cases. So far as it is directly due to surgical operations we should endeavor to reduce it to zero, and not until then will we be able to rest contented. The complete abolition of the mortality rate of abdominal operations will probably be encumbered with more difficulty than besets the arctic explorer in his attempts to reach the north pole.

We can hope to approach perfect results only by carefully studying causes of death in the individual cases and striving to apply the knowledge thus acquired.

Many deaths may be directly attributed to lack of skill on the part of the operator and assistants and it is to be hoped that with the constantly increasing advantages at the command of the younger element of the profession, together with the decided tendency of the age to specialism, that untrained, pregmatic operators, if they exist, will not invade the domain of abdominal surgery. But the most experienced and skilful have a considerable death rate, very low, it is true, but higher than they themselves desire; yet it is from this class of workers we must expect the methods for still greater success. Of course a small percentage of deaths after these operations has been due to intercurrent diseases, but it can not be denied that some of these sufferers yielded to the disease more readily or perhaps directly because of the operation. There is little doubt that ether will cause pneumonia when administered for surgical purposes and I have seen cases of phthisis that closely followed abdominal or pelvic disease and operation. This I

have noticed in a number of cases of hysterectomy for uterine fibroids and in cases where there was considerable shock, hemorrhage, sepsis or other complication, that for a time severely taxed the recuperative power of the patient. Whether there was any relation between the disease for which the operation was done and the subsequent lung involvement can not now be stated. I am inclined to blame the operation rather than the disease for the appearance of the tubercular infection, but as yet we are not warranted in absolutely tracing this cause and effect.

Whenever possible, and usually it is, a careful study of the condition of patients before subjecting them to such an ordeal as an abdominal operation, is imperative.

Systematic autopsies on fatal cases will furnish valuable information for future use. In this way we can find why we failed to save our patient and thus be fore-armed for another case nearly similar. We have had occasion to note this in cases of chronic suppurations of the adnexa and of the vermiform appendix. Occasionally we will find an extra collection of pus behind the liver or even over by the spleen in appendicitis and oftimes collections of pus exist in the liver and kidney in puerperal sepsis.

The causes of death from these operations may be conveniently divided into five classes, viz.: 1, operation and complications; 2, bad condition of the patient before operation; 3, intercurrent diseases; 4, bad after-treatment, and 5, accidents.

Many operations are done at a time when death seems imminent from sudden severe hemorrhage, as in ruptured ectopic pregnancy or severe gun-shot wounds of the abdomen, or from bowel obstruction or pressure from large tumors, or even, from prolonged suppuration or acute sepsis. Many different injuries may demand immediate section and these cases will necessarily increase the mortality rate of laparotomies. In these cases very little time is at the disposal of the operator for investigation of the condition of the patient before operation, other than a very superficial one that determines his decision to operate without loss of time, and usually during it haste is one of the the most important features of his work.

Many times the abdominal condition is not the only one threatening life and in many cases the risk from anesthesia is greater than from the presence of an abdominal tumor. Oftimes, too, uranalysis may reveal the presence of kidney suppuration at the same time as pyosalpinx or other form of pelvic or abdominal suppuration. Again a large abdominal tumor may have caused prolonged and strong pressure on the lungs, heart, abdominal blood vessels and other portions of the body and have caused a considerable relaxation or atonicity of those structures. If this be the condition and the tumor removed, then there exists great danger of engorgement of the veins thus relieved from pressure and of resulting death from heart exhaustion. We have previously referred to this more in detail in a paper published in *The Virginia Medical Monthly*, 1892, xix, 101.

Concerning the operation nearly everything devolves upon the operator, and the manner in which he performs the operation will usually govern the result. The principal complications of intra-peritoneal operations are shock, severe hemorrhage and sepsis. It is usually one of these three that causes the fatal issue in the unsuccessful cases and its work is generally not long delayed. Death from shock usually occurs some time within the first 72 hours.

Severe primary hemorrhage may prove fatal during the operation or within a few hours afterward and secondary loss of blood may occur at any time during the convalescence and be sufficiently severe to cause death. Fatal cases of secondary hemorrhage as late as from twenty to forty days after operation have been reported. Sepsis resulting from infection during operation may prove fatal after the first day or may be introduced in wound dressings some days later and then hasten the patient's death.

Other conditions produce fatal results, though less frequently, and generally at a time more remote from the operation. Of these mention might be made here of bowel adhesions producing obstruction, injuries to the various viscera, as liver causing hemorrhage not noticed at time of operation, kidney or ureter causing either hemorrhage or urinary extravasation with subsequent infection, or perforations of the intestine that through negligence or necessary haste, have been overlooked. I have been surprised in practicing experimental surgery on the ureter in dogs by the severe hemorrhage that often follows section of this duct and its nutrient vessels.

While separating adhesions of tumors to bowel it is easy to injure that tube and if the wall be friable, as often is its condition when attached to suppurative masses, necrosis may later produce an opening through the bowel wall, even though sutures have been employed for reinforcement. Small openings accidentally made in the omentum during operation may admit and strangulate a loop of small intestine, thus terminating life. A considerable number of autopsies have demonstrated this as the cause of death. Urinary and fecal fistula may cause death by exhaustion. We had a death from fecal fistula three weeks after operation and recall one case, not our own, in which death was produced a few weeks after operation, by a fistula in the lower end of the abdominal wound discharging fecal matter and urine. In incarcerated hernia there is great danger of exhaustion following diarrhea that sometimes attends the liberation of the bowel. We had one case in which there was obstruction of the bowel before operation and immediately after it was finished the bowels began to move, twenty-three movements occurring within the next six hours and during the remaining hours of life, a constant discharge from the bowel continued in spite of vigorous treatment to check it. It also terminated a case of volvulus for us in 1891, on the day following operation. Ventral hernia in the line of incision of the abdominal wall caused death in a case not long since in the practice of a surgeon of this city, about the fifth day after operation. She was thought to be suffering from la grippe and the hernia was never suspected, but the autopsy readily revealed the cause of death. Shock is produced in some degree, in every surgical operation, but many causes contribute to it. Anesthesia alone in prolonged operations may be sufficient to produce a fatal degree of shock. Hemorrhage, already mentioned, though slight, may have a like effect. Mutilation of vital organs is a frequent cause and removal of large tumors, by taking a large amount of blood from the circulation in some cases, as well as by bleeding the patient into her own veins as a result of removal of the pressure from large abdominal veins, and from heart, lungs and other viscera, has a similar tendency.

One of the most potent causes is slowness of decision and execution on the part of the surgeon. The

very slow surgeon will probably not have nearly as good results in severe cases as does the quick-thinking and rapid-working one. Exposure of viscera during operation is a frequent cause of fatal shock and this is, of course, very materially aggravated if temperature of the operating room be low. I have repeatedly seen abdominal surgery done in rooms having a temperature of scarcely 60 degrees F. The danger of this is certainly very apparent to all.

The ureters have been injured during operations followed by urinary extravasation and discovered only at the autopsy. These canals have often been unconsciously ligated as in hysterectomy or the removal of a large intra-ligamentous cyst. The peritoneum has often been badly injured and bowel adhesions occurred often causing obstinate obstruction that was relieved by secondary operation, but more often has resulted fatally. The author has lost one case in this manner after secondary operation and Marcy, of Boston, has reported very unpleasant experiences of this kind. The absorption of ptomains, following this impairment of bowel movement, often results in death. An irritable stomach may prevent the taking by the mouth of sufficient nourishment and these cases are not the best for bowel feeding, consequently gradually increasing exhaustion ends the drama. Some patients are panic-stricken soon after operation and can not well be controlled, gradually wearing themselves out. Others may be attacked with insanity in some form that may or may not terminate fatally. These conditions always render recovery doubtful. The effect of ether on the kidneys or lungs often leads to a fatal termination by producing defective respiration, pneumonia and by urinary suppression. Chloroform, aside from its action on the heart and lungs, may also produce anuria.

If the preparation of a patient for operation be neglected we may here have furnished a fertile cause of death a few hours or days after operation. Insufficient or extreme purgation are not a part of the proper preparation of patients for operations of this kind. In one of the author's cases that is now recalled, operation was compulsorily postponed, as within a few hours immediately preceding the time set for the operation eighteen bowel movements resulted from over-purgation, and the patient, though usually strong, fainted on rising from the bed. One week later the operation was successfully done. So also must the after-treatment not be improper. Fatal bowel adhesions may result from the long postponement of the use of purgatives, especially if severe pelvic or abdominal adhesions existed before operation. Injudicious diet has caused no small number of deaths weeks after operation.

Enough has been said earlier in this paper concerning the influence of intercurrent disease as a factor in the production of a fatal result to abdominal surgery, but we must ever be alert for organic diseases intercurrent or concurrent with this work. It is easy to overlook the possibility of such an occurrence until death has placed its hand on our patient. It is not to be understood that they necessarily prohibit such important surgery, but that they are always to be given sufficient consideration.

The accidents always besetting the abdominal surgeon are varied and numerous, and serve to keep him constantly on guard. They are by no means unavoidable in many instances. They will always complicate the work of the inexperienced and careless surgeon far more than one careful, wide-awake and experienced. In fact, a very large proportion of accidents in this line of surgery are the direct result of improper surgery. A very common one is secondary hemorrhage. This often follows removal of the spleen, kidney or a uterine appendage. I must acknowledge having lost a case in this manner in spite of a second opening of the abdomen. The cause of this accident is, of course, improper ligation of the blood vessels severed in the operation, or too much freedom of movement allowed to the patient after the operation. Too much tissue, besides the blood vessels, is included in the ligature, followed by shrinkage of the stump. This allows the ligature to slip off or, by the lessened pressure on the vessels, the blood to be forced out through their cut ends. Both these results are facilitated by a restless patient moving suddenly and vigorously about the bed, and perchance getting out of bed when the eye of the nurse is directed elsewhere.

After this quite casual recital of the principal causes of the mortality incident to abdominal surgery, it may not be out of place to point out some of the procedures that will assist in lessening the proportion of cases that do not survive operation. In doing so I regret I can offer no new suggestions that have been found worthy of note. It may be the principle of some surgeons to refuse operation to some cases that do not appear to have much chance to survive it, even though they are in a practically hopeless condition if left without surgical treatment. They, no doubt, believe they are doing more for the reputation of surgery in pursuing this course. While not agreeing with men of that opinion, I am not prepared to say I am right and they are wrong. Certainly, their mortality rate should be much better than that of the operator who will do for any living person all his skill and experience will permit. As many times death has resulted from insufficient knowledge of the real condition of the patient at the time of the operation, it follows that to be very familiar with the physical condition of a patient before operation is an essential feature of abdominal surgery. The principal organs of the body should be studied, both as to their function and organic condition. In the vast majority of cases, the operator has an abundance of time for careful study before operation. The detection of the localized tumor or other abnormality is not sufficient, but careful exploration should be made of all the principal organs of the body. The condition of the kidneys, heart, lungs, liver and gastro-intestinal canal are particularly important, and when possible, the function of these organs and their accessory structures should be normal or nearly so, before an operation is performed. This will assist in the after-treatment, as well as lessen the susceptibility to shock. A healthy, vigorous organ or system of the body is less easily influenced by shock, ptomain absorption, etc., than is one that is sluggish, incompetent or impaired. Urinalysis is a very important matter in this work. We have learned that an examination of the urine that tells of the presence or absence of albumin, the specific gravity and reaction of a specimen voided by the patient, is of no earthly consequence. We must know the amount of solids passed by the kidneys in twenty-four hours, the presence or absence of renal casts, and whether any abnormal ingredients are present. The urine must be drawn by catheter to prevent its being contaminated by extraneous matters, and we must know how much these points are modified by insignificant conditions. Urin-

alysis is a perfect index of the kidney function, and ofttimes will tell us much about other organs that might not be noticed by any other kind of examination.

After we have carefully studied the condition of the patient we turn our attention to the operation, upon which depends greatly the result. We should always know when to stop, and not to place upon the patient a greater load of shock and other handicaps than she can stand and recover under. Preparations should be made in every instance for rapid and proper operation. As very few are competent to administer anesthetics, special attention should be given to the selection of the anesthetizer. Many deaths are directly due to the anesthetic, and therefore we should carefully study the action of the anesthetic upon the patient. The most intelligent and best informed assistant should be the one to give the anesthetic; trusting this part of the operation to nearly any one that can be procured is extremely reprehensible.

The author has found the admixture of oxygen with chloroform to be very satisfactory. The amount of time consumed in giving the anesthetic is important and, of course, the rapidity of the operator will to a great extent control this. Careful and clean surgery should always be done, but no time should be used during an operation for study. The operator should be quick to appreciate the work before him in any case, and to do it in the shortest possible time consistent with good work. In cases in which we have reason to expect much shock it is very important to do everything to prevent it. The heating of the operating table by hot applications in the way of hot water pipes or hot water bags is of untold value. The temperature of the room should be about 85 degrees F., and every assistant well trained to the work. In this way only is rapid work possible. Some of the principal points to be remembered by the surgeon are to do as much of the work as possible by sight, to expose no viscera not to be removed, either to contamination with discharges in the field of operation or to the outside air. Drainage is oftimes necessary, and probably if more drainage was practiced more permanent cures would be secured. Close all peritoneal tears if possible, and thus remove danger of intestinal adhesions; endeavor to leave no bleeding surface. It is not necessary to wait until the patient has been removed from the operating table to begin the use of stimulants. Very frequently a liter or less of normal salt solution run under the breast of a woman during operation will turn the course of her condition toward recovery. I am firmly convinced that I have seen a great many women saved by the prompt use of this agent on the operating table. I have seen bad cases recover in which artificial respiration was necessary throughout nearly the whole operation. If clean surgery has been done, when shock lessens convalescence begins and continues steadily. If intestinal tears be made during operation they should be isolated completely, that the peritoneal cavity will not be infected, and repaired as soon as possible. If the bowels are kept moving by cathartics adhesions are not so apt to occur. Over-feeding and under-feeding are bad for these cases, though the latter is the less harmful. We must not feel that our patients are out of danger when the bowels have been moved once, for many cases of bowel obstruction have been noticed as late as the second or third week, when all seemed serene, and rapidly proved fatal. Fecal fistula following operation is, to say the least, a very disagreeable complication at all times, and if large and connected with the small intestine, will perhaps kill the patient. We very vividly remember a fistula connecting the ileum with the vagina that proved fatal about three weeks after operation.

Ureteral and kidney fistulæ may cause death by infection of these organs. Those connecting with the bladder will usually close spontaneously if that viscus be properly drained.

Sepsis is a very difficult condition to contend with. Many of the operations are for this cause, and a good many die from it that were infected during or following operations for other causes. As bacteriology is making such praiseworthy progress in sero-therapy, we can with reason hope for the successful treatment of this condition in some such manner as is being applied to puerperal sepsis.

But at present we are almost powerless against it, and the patient who has already undergone the ordeal of an abdominal operation has very little chance against it. Fortunately, we have it to contend with far less often than formerly. We must not allow this opportunity to pass for saying a good word for the infusion of normal salt solution in these cases of sepsis. It is certain we have had cases in which it acted almost magically both in reducing temperature and improving the condition of the pulse. We need say nothing more concerning accidents, except that good judgment is required, and that in ligating blood vessels in the abdominal cavity it is advisable to include in ligatures as little of the tissues about vessels as possible, thus preventing the tendency to secondary hemorrhage.

DISEASES OF RAILWAY MEN CAUSED BY THEIR OCCUPATION.

Read by title at the Third Annual Meeting of the American Academy of Railway Surgeons, held at Chicago, Ill., Sept. 23, 24, 25, 1896.

BY J. F. PRITCHARD, M.D.

DISTRICT SURGEON ON THE CHICAGO AND NORTHWESTERN RAILWAY.

MANITOWOC, WIS.

All occupations nearly, affect the human economy in some peculiar manner. Where there arises a strain of the physical system we find diseases affecting the muscles, joints, bones, etc., and when the strain is mental the nervous system is found involved. These facts are so common that they are truisms and need no demonstration.

We would expect to find among railroad men a complication of diseases from the very nature of the occupation. There is no doubt of intense mental strain at times, and the general muscular system is subject to a degree of fatigue almost past endurance, which must produce its effect; but I find upon investigation that but little attention has been paid to the subject, and my only hope now is to direct your attention in this direction in order, if possible, to reach some clear conclusion regarding the effect of occupation on railway men, and its ultimate effect in case of injury.

The following, quoted from a stray medical publication, shows evidently that others have been giving this subject attention.

"Neurologists are watching with great interest a new expression of nervous malady which has appeared since the introduction of the Broadway Cable cars and the Brooklyn trolly system. With the exception of Chicago there are no cities having so much street traffic as New York and where these methods of trans-

portation are in operation. A nervous state unlike that which is excited by great noise or sudden danger has developed in several gripmen employed on the Broadway road and among the motormen of the Brooklyn trolly lines.

The constant lookout for collisions in the overcrowded district below Canal Street in Broadway keeps the gripman in a state of extreme nervous tension from the hour he goes on his car until he goes off duty. Besides keeping an eye open for visible trouble his mind dwells on possibilities that are under his feet. He does not know when there is to be a pooling of interests between the grip and a broken strand in the cable which will whisk him along the street into trucks, smashing wagons, frightening people, and exasperating the city fathers. This nervous strain results first in wakefulness, then in loss of appetite and extreme irritability; after this a tremor in the facial muscles. At the end of a week, says the medical examiner, all of these symptoms disappear and do not come back for ten days, but afterward the intervals are regular, about a week apart. Seven days in a state of nervous terror and seven days in a healthy state apparently. These symptoms apply only to men of nervous, nervo-sanguine or bilious temperaments. While present in other temperaments they are not pronounced."

I am informed that on some English railways where very fast trains are being run, only young men as engineers are employed. After running for a length of time they can not make the schedule, and as there is a fine for delay of mail at the rate of one pound ($5) per minute it seems to be important that the train reach its terminus on time. Why are experienced men unable to do this? Is it not from some depressing effect on their nervous system?

I have three notable examples of the influence of their occupation as engineers.

The first was an engineer on passenger trains. He never had an accident but developed severe neuralgic pains in various parts of his body, notably his head and back; was troubled with chronic cough also, and finally was pensioned on light duty on account of his disability until the road was sold, when he returned to duty on a branch line, but suffered at once from severe girdle pain and great lassitude, which finally developed into an epilepsy with gradual softening of the brain. He is now at times unable to walk, has regional paralysis, is unable to talk at all, and can live but a short time. This man is a pensioner, was discharged from the army for disability affecting the lungs, but recovered and to my personal knowledge had charge of an engine for nearly twenty years. I am satisfied that his present condition is largely due to his occupation and the nervous strain attending it.

In the second, also a passenger engineer, and one of the best, he had the misfortune to run into a washout without injuring any one except some few slight scratches, although the train was very badly wrecked. After a month or more he was set to work as a conductor, but made a failure of that as he seemed to be unable to comprehend the time-card. He could not stay on an engine when running as he seemed to become paralyzed with fear. He was given a position in a roundhouse and shop, which position he now fills, but he can not run an engine because of a return of his nervous symptoms, although fifteen years have passed since the accident referred to. In every other respect he is in perfect health.

In case third, also an engineer of the first-class, while running a passenger train on a branch line collided with some cattle and his engine was thrown off the rails, but no damage done. He has never since been able to run on any fast train, and is now pensioned on a short branch line where he does effective work. He informs me that he becomes nervous and unstrung when running fast or on the main line, and in deference to his wishes he has been kept on easy work since his accident, now nearly sixteen years.

I will refer to but one or two more of this class as showing in my opinion the effect of mental strain due to occupation. A case reported by Charles S. Potts, M.D. Mr. A. R., age 28 years, a railroad engineer, was perfectly well until three weeks previous to coming to the hospital. At that time while attempting to save a man from being run over he had a narrow escape himself. Since this he has been very nervous and excitable. He complains of restlessness at night, frequently walking in his sleep, palpitation of the heart, headache, and of being confused mentally. There were also dyspeptic symptoms which he says did not exist before.

The *Brit. Med. Jour.*, says that there is reason to believe that at all times there are men on the line who are working very near the breaking strain. We may in regard to this mention three well-known instances which at the least show the tension under which work is carried on. A station master seeing a man run over on the line, himself fell down dead upon the platform. Here was a shock which permanently made his heart stand still; and how many times had not that man's heart stood still before? We may feel perfectly certain that if the major shock could kill, the minor daily shocks of a railway life must have greatly damaged a heart under the influence of the nervous system.

Two trains collided at a junction. It was either the fault of the drivers or the rails, certainly not the signalman. The signals were right; yet when the box was entered the signal-man was found to have gone mad and had to be taken to an asylum, where he remained for long. He was broken utterly by the horror of the dilemma. But what shall we say about the smaller dilemmas which every hour of his working life he had to solve? Did they not also have an effect, although a lesser one, on the brain?

A few years ago it was found that the sickness rate among signal-men of certain lines was becoming excessive, and it was determined to do away with the system of leaving to one man the whole responsibility of taking charge of a signal-box. At great expense every box along the line was supplied with two men. Great evils were prophesied. It was thought the men would talk and lark and neglect their duties. This did not happen but the sickness stopped. Under the shared responsibility they no longer broke down. If then, as seems to be indubitable, railway strain can have definitely injurious effects upon the nervous system it becomes an important question for inquiry whether this nervous derangement at all frequently has the effect of impairing the nutrition of the heart. Upon this special point we do not at present possess sufficient information to warrant the expression of a definite opinion.

Now, while these cases are extreme and well marked, as a matter of convenience and for a basis from which to make deductions, I think we can fairly say that they are all due to occupation. And while all railway men of this class may not have similar experiences yet

they all have similar mental strain from constant watching to avoid teams on grade crossings in country and town, more particularly with fast trains where time must be made regardless of every other consideration, and also to avoid crushing track-walkers. By these I mean tresspassers on the track. Have you ever ridden on an engine when ahead you see a man walking in the middle of the track as unconcernedly as though on a promenade in the park? He is going your way. The engineer puts his hand on the air valve, watching the man intently, but not slacking speed, waiting to see him leave the track. He next blows an alarm with the whistle but does not apparently attract attention. He is now so close that he can not stop, but he makes the effort, reverses his engine, puts on the emergency brake and, when he is just on the man, turns his head away to avoid the sight, but the man steps off. Yet the mental and nervous strain is just as great as though he had killed this individual. If the trespasser happens to be a child or an intoxicated man, usually he is a subject for an inquest with all of the usual senseless blame and criticism. Every engineer has more or less of this to bear, and as a consequence there must of necessity be nervous disturbances of varying degrees of severity in this class of railway men, although I am not aware that they have been made a separate study up to the present time.

I find a great deal of complaint of backache among all classes of railway men. I think it is mostly muscular, from the mere muscular strain of maintaining equilibrium from rapid movement of the trains. Especially is this true of freight train crews and where men are obliged to be on their feet in the various duties of their work. I have not been able thus far, however, to note any unusual number of kidney diseases, but this may be modified by more extended observation. Certainly they complain of a frequent desire for micturition, an indication pointing to congestion of the kidneys, but it is so difficult to keep any considerable number of men under continuous observation, more particularly on western roads, that I at least am not prepared to say that their occupation may not be a potent cause of kidney disease.

From the very nature of the occupation we would expect digestive difficulties of all kinds with attendant diseases. Twenty minutes for a meal is the limit of time allowed in any case. The train men always have some duty to perform after the train stops or before starting which cuts out five minutes or more. They rush in, bolt their food, rarely knowing what or how much they eat. All aboard, the train starts, the men are intensely occupied with their work, and food remains either fermenting in the stomach or digesting but slowly with the subsequent troubles. I can conceive hardly of a human stomach that could digest food under such circumstances, yet many of these men appear to become accustomed to this method. Still I am sure from my contact with them that many of them suffer in this manner. In this connection I note two serious and finally fatal cases of stomach disease among very many minor ones. These two men give somewhat similar histories and required constant attention, yet they both finally died from exhaustion at about 40 years. I am well aware that digestive diseases are very common among all classes of people, but do not find such diseases prevalent among young men in any other occupation.

The second part of this paper, referring to the injuries to railway men and their prompt recovery or otherwise, could be easily answered if we can admit the first, viz., that railway men as a class are more subject to neurasthenia and some other serious diseases than men of similar ages in other occupations. It is very positive that men under constant nervous tension bear injuries badly; and my observation is that their prompt recovery is in proportion to their length of service. This rule, if we may so call it, admits of exceptions, but I think by investigation you will find it to be a fact.

This brings up a question in legal medicine which is important, viz., traumatic neurosis. Can we say positively that a railway man suffering from any of the forms of traumatic neurosis, that his disease was caused by the injury, or was it not in existence and the injury merely brought it to light? Is it not more probable that under nervous strain for years his nervous system was diseased and that this shock merely called the attention of his physician to it? I am strongly of the opinion that if we can carefully investigate individual cases, eliminating all pseudo cases, we will find this to be the case.

One writer in summing up a paper on traumattic neurosis says, "It can not be denied that neurasthenia when produced by overwork, exhausting disease, or any of the many recognized causes for such a condition, may cause great suffering and disability when only subjective symptoms are present, and these cases would seem to prove that traumatisms should be placed among the causes." I would reverse this method and say, that the disease was existent previous to the traumatism and that the injury merely called attention to it. The symptoms of this neurosis are merely accentuated by the traumatism but not caused by it. How many cases are noted in which the symptoms are out of all proportion to the injury, and in what other manner can they be explained? Many cases of so called railway spine, and in fact all forms of neurosis, can be easily understood on this basis of reasoning.

I had only hoped in this paper to call the attention of the society to this line of study, and hope it may be a means of originating a collective investigation that may make this whole question clear. I would suggest that it be made a line of study for this learned society as I know of no better means by which to settle it.

FRACTURES OF THE FEMUR.

Read at the Third Annual Meeting of the American Academy of Railway Surgeons, held at Chicago, Sept. 23, 24 and 25, 1896.

BY E. M. DOOLEY, M.D.

SURGEON TO THE NEW YORK, LAKE ERIE AND WESTERN RAILWAY.

BUFFALO, N. Y.

The subject we have before us may justly be considered a trite one. It is one with which we are all apt to have experience of one kind or another. Some we may call fortunate, others unfortunate experiences.

With the advent of the penetrating X rays it behooves all surgeons to make a special effort in the diagnosis and treatment of fractures of the long bones.

My object in bringing this subject before you today is not with the idea that anything new or startling may be shown in the diagnosis and treatment of fractures of the femur. But my experience as regards injury to this particular bone has been more or less extensive, and I have a few observations to make which may be of interest to all. Surrounded as the femur is, especially at the upper extremity, by large

and powerful muscles, there are times when it requires the utmost care and precaution on the part of the surgeon to determine definitely the existence or non-existence of a fracture. Under such circumstances we can not be too careful in our examinations if we would assure ourselves of a correct diagnosis, and a correct diagnosis is the only means by which an intelligent prognosis can be given. I believe in all cases where it is difficult to observe after careful examination any definite sign of fracture, and the latter is suspected, we should insist on the administration of an anesthetic. With spasm relaxed we are often enabled to locate crepitus and in cases of impaction our measurements can more accurately be made. I have seen some very grave mistakes made by men who justly bear reputations as surgeons, which I am confident would not have occurred had their patients been examined under anesthesia. As regards fracture of the neck of the femur, I think that in most cases where such are suspected, an anesthetic should be given and the examination be thoroughly made. Due care should be used, however, to guard against the possibility of breaking up an impaction.

I have had unfortunately within the short space of a month in my own practice two cases which a careful examination without anesthesia failed to reveal what ultimately proved to be a fracture.

In one case I had in consultation with me one of the best surgeons in my neighborhood, and together we measured the patient carefully and could detect no shortening. The position of the limb was normal, rotating and flexing, although it gave more or less pain to the patient and failed to give any definite sign of fracture. Our diagnosis was contusion, and we told the patient he would be well in about ten days. This occurred about two years ago and the patient still uses crutches and has about two and one-half inches shortening on the injured side. The second case passed from my hands to the hospital, where under anesthesia a fracture was discovered.

No bone in the skeleton is more influenced by the action of the muscles and yet it is surprising often to see how little attention is paid to the importance of muscular contractions. In saying this I do not intend to convey the impression that surgeons of today treat fractures of the femur without in some manner or other extending the limb for the purpose of overcoming muscular contraction. But it has been evident from some of the results we have seen that an effort has not been made to overcome muscular contraction in a scientific manner. Our efforts to overcome muscular contraction by extension should be directed against those contractions as they are liable to occur. Several muscles whose combined action tends toward one direction displace the fragment. It may or may not be possible to use extension sufficient to overcome these contractions. We have besides the situation of the fragment, another factor in the peculiarity of the patient. This latter in my opinion is more important than is usually conceded. We see some with the proverbial muscles of iron, the degree of contraction necessarily being in proportion to their tonicity. It is quite reasonable to understand, therefore, that a fragment of bone likely to be displaced by an ordinary muscle is likely to be more displaced by one exhibiting stronger powers of contraction.

We use extension to overcome the contraction of the long, powerful muscles of the thigh, or in other words, to overcome the muscles displacing the lower fragment. We elevate in the hope that we may bring the lower fragment in apposition with the upper.

Before we would enter into an intelligent discussion of the treatment of fractures of the femur, it becomes of utmost importance to review the pathology as it generally occurs. I think that fracture of the shaft at the upper one-third offers the most advantageous means of applying our knowledge for the bettering of the patient; and for that reason principally, and also in order not to infringe on the time of others here, I will confine my remarks on the pathology to this particular form of fracture.

Recall for a moment the anatomy of the upper one-third of the femur and we find an abundance of muscular attachments so that at first thought it would seem difficult to determine the exact direction the upper fragment is most liable to take in complete fracture just below the lesser trochauter. By dividing the muscles into two groups, one set being posterior, the other anterior to the great trochanter, we have a simple and exact method of determining the position of the upper fragment. We find, however, that the action of the posterior set of muscles is not in proportion to offset the action of the anterior, partly due to the nature of the muscles themselves, the larger ones acting as a cushion to the bony parts, rather than as a powerfully contracting tissue to assist in the movements of that portion of the body, and partly also due to the relative points of insertion. The fragments being acted upon as a lever of the second class, naturally the muscles inserted at the lower point exert a more powerful influence on the movement of the fragment. When a complete fracture occurs just below the lesser trochanter, the contraction of the psoas magnus and iliacus are exerted to such a degree as to almost entirely overcome the action of the glutei and remaining posterior set of muscles. The usual result is the tilting upward and rotating outward of the upper fragment. The lower fragment naturally slips behind and the contraction of quadriceps, extensor, adductor, gracilis, biceps, etc., causes the lower fragment to draw upward, the result being shortening of the entire limb.

To illustrate this I have with me an excellent pathologic specimen. It represents a fracture at the upper one-third of the shaft just below the lesser trochanter. This specimen emphasizes the necessity for elevation and extension if we would have the fracture unite on a straight line and not have a result of two and one-half inches of shortening.

I have no history of this case, but it is quite apparent from the result shown here that the fracture was treated without elevation or extension.

It is quite evident that the upper fragment was drawn forward by the psoas magnus and iliacus, and that the lower fragment was drawn upward by the long powerful muscles of the thigh. As this was a complete fracture and directly transverse, I see no reason why it could not have been properly reduced under complete anesthesia. With muscles relaxed and elevation and extension applied, it might have resulted in a perfect union of the fragments without shortening.

One question as regards the treatment of fracture of the upper one-third of the shaft of the femur, has, I must confess, often puzzled me, and that is, what is the proper amount of elevation to use in order to have the lower fragment in apposition with the upper, or at least to have the shaft of the lower fragment take the same direction as the shaft of the upper fragment.

We know that in the case of children good results have followed the raising of the entire limb to a vertical position or at a right angle to the direction of the body. Fairly good results in adult cases have followed the use of the double incline plane with Buck's extension where we have a much greater angle, and I have seen good results follow the use of the Volkman slide.

I think it is a well known fact that the best results have been obtained in young patients; various reasons are given, but to my mind the increased amount of elevation is one of the most important factors.

I do not think it essential or advisable in the case of adults to elevate the limb so as to place it in a vertical position or at right angles to the body, but I do claim from the pathology of the fracture that in the great majority of cases more elevation is required than is generally given.

One object we have in making extension and that is, not that the entire limb may be as long as before, but that it may not be shorter than its fellow. I recall a case in particular which aptly illustrates my meaning. A young man, age 19, acting as a brakeman on a freight train, was brought to the hospital with fracture of the shaft of the left femur, and who had at the same time a fracture of the acetabulum of the right hip. We were confronted with an irreducible dislocation of the head of the right femur and an oblique fracture of the shaft of the left. An attempt to make sufficient extension on the left side to reduce the amount of shortening to a minimum would, without doubt, have resulted in a longer limb for the left than for the right. Hence, although our results might have been more perfect as regards the union of the fracture, yet it would have been less acceptable to the patient.

By simply steadying the right side by means of sand bags so arranged as to keep the line as near like the original as possible, and by using a double incline plane without extension for the left side, we obtained ultimately a good result. For although the patient was perhaps a little more than two and one-half inches shorter in stature than before, yet he was finally enabled to walk with scarcely any appreciable limp.

In my hospital service I noticed that nearly every patient treated with the Volkman extension apparatus complained constantly of pain in the heel. I tried every imaginable way to relieve the pain and have the extension continued, without success. This was particularly the case with the small boys who invariably tried to reach the foot of the bed, and thereby defeat the purpose of extension. Having had occasion since then to treat several boys for fracture of the femur, I succeeded very nicely with a modification of the Volkman slide.

First, I removed the metallic splint and foot rest, I had the little patient's stocking and shoe put onto his foot. The stocking was cut off at the shoe top, so as to leave the leg bare. Then with some adhesive plaster I strapped the shoe and leg as high as the knee, then a screw was inserted into the heel of the shoe to which was also attached a transverse piece of wood to slide along the board beneath, and to assist in keeping the foot upright. A cord was tied to the screw and extension weights attached. All of those treated in this manner never once complained of pain in the heel. In this way I was able to use more extension weights without distress to the patient. The results, I am happy to say, were very gratifying.

One word I wish to say in regard to fracture of the femur occurring in elderly people. I think it is our duty to have these patients able to leave their beds as soon as possible, and to this end I do not think there is a more serviceable appliance than a spica made of plaster of Paris, always carefully padded with cotton.

In the treatment of compound fractures, I think that, wherever it is possible, they should be converted into simple fractures by thoroughly cleansing the opening, closing with sutures if need be, and healing with an antiseptic dressing. I have seen some excellent results follow this method of procedure, and am heartily in favor of it wherever it can be done.

DISCUSSION.

Dr. M. GARDNER—It has been my fortune to see a number of ununited simple fractures in the right limb, and I do not know whether other surgeons and employes of the companies have met with these cases; we have had three on our system in two years; they have been in the hands of good surgeons, men competent to attend to business, but union did not take place, and the result has been we have been obliged to make a compound fracture and wire it.

Dr. COLE—I have had three cases of ununited fracture of the femur, two of them I wired without satisfactory result, and I would like to know—because that is a mooted question in the profession—the experience of those who have had these cases as to the results obtained in wiring ununited fractures of the femur.

Dr. GALBRAITH—I call to mind a very interesting case: A conductor sustained a simple fracture of the thigh, I forget which leg now; he was placed in a hospital and treated by a a very good man; the usual methods were employed, but he failed to get union. He cut down and wired it and put it in a plaster-of-paris dressing and it remained some ten or twelve weeks; there was no tendency to repair, the splint was replaced and remained about six weeks I think, and after removing the splint on examination it was found there was a false union; it was a railroad case, and the surgeon wrote me concerning the man's condition, and a little later, probably two weeks, I visited his hospital and advised cutting down and sawing off the bones and using Wyeth's device in the usual method; the limb was put into a plaster-of-paris cast, at the end of ten weeks the dressing was removed and we had succeeded in getting an excellent result; and I believe invariably the use of this in the thigh, and more especially in the leg, is much better than the wires or any other strong suture; I think better results will be obtained by its use than by any other method; it certainly holds the bone in better position and maintains better apposition and rest to the parts. The great difficulty in those cases where wire has been used, is that the regenerative process that goes on is so violent as to be continuous and resolution does not take place till so late that the callus becomes softened.

Dr. LEMEN—I have had varied experience with the cases that I have used wiring. I must say that it has never been very satisfactory to me. I find that where you have to cut down and wire in ununited fractures, it requires at least twelve weeks of immobilization before you can expect union; the patient becomes impatient and the surgeon becomes impatient; in a case that I have had recently I kept it up for thirteen weeks and there was as much of an artificial joint at the end of that time where I used my wire as when I began. I had another case in which there was a compound comminuted fracture of the femur; the laceration of the soft parts was very extensive, and one portion of the bone was split off from the other two between three and a half and four inches long. I did not have to do much cutting in that case because the external wound exposed the interior wound completely. After washing it out thoroughly instead of using wire I simply took silkworm gut and put it around in three or four places, binding very much as the old farmer binds his sheaves of wheat, and I never had a better result in any case. I believe instead of using the silver wire, unless the fracture is almost transverse, and it is a very rare occurrence in my experience to have an ununited fracture of the femur where it is almost or completely transverse, if the first cardinal principle which should be regarded in the treatment of the fracture, is observed, simple apposition, the muscles themselves retain it in position; an oblique fracture gives the most trouble and is the one most likely to be ununited. In any oblique fracture of the femur where it is necessary to use wire you can use the silkworm gut; I put it entirely around the bone, periosteum or anything else,

bring it as tight as I can, tie it in three or four knots, dress with aseptic dressing, immobilize it. The great reason that we have ununited fracture in most of the cases is that we do not immobilize our fractures, and as I have stated to our Society for two or three years, the treatment of fractures of all kinds is the simplest thing; there are three cardinal principles that should be observed and we will rarely have bad results; the first is, diagnosing—make out the fracture and the condition of affairs; the second is apposition; the third the retaining in apposition—and your results should be perfect.

Dr. REED—I want to add one more cardinal principle which is highly important in the repair of fractures, and that is we must have in addition to apposition and holding in position, the disposition on the part of the economy to repair. I remember a case which was injured on the Baltimore & Ohio railway some twelve years ago in which there was a transverse fracture which I knew was properly adjusted and held in apposition because it was placed in the hands of one of the best surgeons in that section of the country, in which there was no repair whatever, that was operated on, and still no union, the subject of which sued the company for damages; and the company had to pay a good many thousand dollars in that case. I began to feel that something had been left undone, something that I ought to have done. After-experience has taught me that in those cases where there is non-union it is nine times out of ten the result of the failure on the part of the economy to repair the bone, except in those cases where there has been a portion of the connective tissue or muscles interposed between the ends of the bone. I have operated on quite a number of cases for non-union and in, I will say at a rough guess, perhaps 50 per cent. of those cases there has been an interposition of connective or muscle tissue in between the end of the bone, and when that is there there can not be union; but on the other hand when there is no foreign substance between the ends of the bone it is due to a lack on the part of the economy to replace new bone, and when that is the case I do not care whether you wire the bone or whether you hold it together with silkworm sutures or what you do, it will not repair. In a number of these cases in which we have made careful union, in which we have sutured the bones together with various sutures, we have had no repair whatever, no disposition to repair. One case I recall: The fracture had been immobilized for ten or eleven weeks, and in cutting down we found no disposition to repair whatever; it was like an entirely new fracture, not even absorption of the end of the bones; it is not the fault of the surgeon, but the fault of the economy or the tendency to repair in the person who is injured, which should be taken into consideration; and I believe in a large majority of these cases where there is non-union it is often the fault of the persons themselves, not what they do, but a constitutional condition which prevents the repair of the bone.

Dr. HERNDEN—The remarks of Dr. Reed call up a point in my mind and that is the failure on the part of nature to provide for the repairs. I believe myself, from some experience in that direction, that is true, and I would like to speak of a case in particular which will help the author of the paper. We all feel sympathy and admiration for the fellow who owns up to the corn. I wish to speak of this case because I fully agree with him? It was a peculiar case. A wealthy man in our vicinity, and in fact about the only one we have around there, was visiting in Minneapolis, and fell through a skylight in the hotel, the skylight to the library, struck on the steam radiator; he was severely shocked and it was thought he would not live—and I think the condition of shock is a barrier in the process of repair in a fracture wherever received; he received a compound comminuted fracture of the forearm; he also received a fracture of the thigh or femur. Dr. Hague of Minneapolis, an eminent physician, and a professor in one of the colleges there, were called and diagnosed an intra-capsular fracture of the hip, and put him under treatment, carrying out immobilizing of the hip joint and the whole body for about a little over two months and then declared that there was a repair of the fracture. Dr. Hague wrote to me subsequently that the case was one of those unusual cases where recovery had been achieved where the fracture had occurred within the capsule. The man got homesick and came home on a bed. The doctor had taken off the immobilizing appliance but had a weight and pulley still attached to the limb, because he wanted to maintain his glorious result—the doctor wrote he had achieved a result that was remarkable, he felt proud of it, and wanted that I should keep up the extension so there should be no shortening—and there was no shortening that I ascertained on examining the man. I took off the weight and pulley, threw the weight over the bed and told him, "You never had any fracture of the capsule, Dr. Hague to the contrary." On examination the joint was soft, weak and exhausted, the fracture in the arm had not healed nor the bones united; this delayed the fracture of the arm, and the fracture existed in the thigh, not the hip. I speak of this to emphasize this point that the processes of repair may be delayed by shock or other systemic condition. On examination I found no shortening, but I found a splitting fracture of the thigh, commencing at the trochanter extending down eight inches. I could pass my fingers—he was thin—between the fragments and push out the lower end of one fragment. Not being content to let the diagnosis remain with myself pitted against Dr. Hague and the professor, I called in three prominent and competent surgeons. They agreed with me. I made an appliance holding the fragments in apposition and got a good result under heroic systemic treatment. I wrote to Dr. Hague and gave him what I thought was the history of the case from the beginning. I said, "You have not achieved a grand result, you have achieved a grand sort of ignorance." He sent me the affidavit of the Professor stating that there was crepitus, no doubt about the fracture being in the capsule, I was a foolish man to speak of the splitting fracture, I was simply stating something that did not exist. We had some more correspondence about it; I wrote him that the surgeons that examined it were eminent, and the four of us concurred, no question about it, and each of us passed our fingers under the fragment of bone. I said, "That is where you got your capsule—it never was an intra-capsular fracture." I have brought up the case to emphasize the point made by Dr. Reed and to help our Dr. Dooley as to the diagnosis in such cases. I have myself been very much bothered sometimes, and I think Dr. Hague and his friend must have been bothered when they made that diagnosis.

Dr. MAYO—In reply to Dr. Cole's inquiry in regard to wiring fractures I would say that in one case of ununited fracture the result was unsatisfactory. In a number of instances I have wired compound fractures, or at a secondary operation wired for the relief of deformity due to improper union. One fault in wiring is that while you can hold the ends of the bone in position, muscular action has a great tendency to cause angling or bowing, which is hard to prevent. About a year ago I saw a silver bone splint in Baltimore, used both by Tiffany of the University of Maryland and Halsted of Hopkins Hospital. This splint is composed of silver, is about three-fifths of an inch wide with screw holes at frequent intervals. A piece of this splint can be broken off the right length, laid so as to cover the seat of fracture, and on the sound bone each side, and with silver screws firmly anchored in position. It is claimed that this can be sealed and left permanently. A recent case is reported in the *Annals of Surgery* where this was done successfully in a case of ununited fracture which had been previously operated upon several times, with failure. I have used this on one case with great satisfaction; the case was a septic one and I packed with iodoform gauze and eventually removed the splint. I was surprised on removal to see how tightly the screws were held in the bone at the end of a number of weeks.

Dr. SCOTT—I wish to say a word on Dr. Reed's remarks relative to the nutritive influence in connection with fractures, especially in fractures of the femur. I think a great deal more attention should be paid to that especial point by the railroad physician than is usually given. Recently, upon my recommendation, the general manager of my road has taken steps for the purpose of employing a better class of labor on our road. We have heretofore had no examinations made scarcely, and while we have had some examinations made in the transportation department, we have not had any in the road department, and have had a great many fractures from that department; our general manager has given instructions that the foreman or the road master should employ none but comparatively young, able-bodied men. While that seems to be an injustice to the old class of laborers, yet it is nothing but justice and is a protection to our company to employ such laborers. I believe that on account of this step we will be saved some of this trouble and it may save the company thousands of dollars at the same time.

Prof. RIDLON—When the general surgeon treats a case of fracture and fails to get union, and wires it and fails to get union, he sometimes comes to the orthopedist for help. That leads me to feel I have some right to take a part in this discussion. There is one point omitted in the question of treatment for repair of fracture. As I understood Dr. Reed's point of defective nutrition, he means defective generally and not local. I should take exception if it were defective locally.

Dr. REED—It may be either or both.

Prof. RIDLON—I will cite two cases: Henry D. Sands of New York; treated for fracture of the tibia, non-union; he was wired, non-union; then afterward it was operated on by

Dr. Frank Hartley of New York, and failure to get union; he was sent to me. I took off the splint and in six weeks there was good union. The other case was treated by William T. Bull of New York City; there was a local defect, not general; after wiring and getting no union, the case came to me. I took off the splint and treated it and in four weeks there was a good solid union. The point I would make is this: These cases, and all the cases I have happened to see, have been treated by plaster splints. I would not say that plaster splint makes non-union, but I say in many cases of non-union the effect is due to constriction of the fractured region. When the constriction was removed, when the local congestion was reduced at the point of fracture, union took place. I believe a fracture should not be constricted.

Dr. GALBRAITH—In view of the fact that our discussion is placed on record, I wish to take some exception to Dr. Lemen's remarks; possibly I did not understand his meaning. If my memory serves me right, he cited the fact that all there was to do was to secure and maintain apposition and that in all cases you would secure a perfect result. Now I may be in error in this; if I am I will go no further. If I am correct I should like to say something concerning his treatment.

Dr. LEMEN—I think you understand me correctly; my statement was this: Diagnose your fracture, place it in position, retain it in position, trust to nature, your results are perfect.

Dr. GALBRAITH—I will cite a case and I will be much obliged if the gentleman will advise me regarding the treatment. A lady, 18 years old—she is under my care at the present time—met with an accident in a railroad collision, receiving a fracture of the right clavicle near the shoulder joint, a fracture of the left clavicle near the middle, a fracture of the scapula, a simple fracture of the middle portion of the humerus and a compound fracture of the elbow joint. Repair has taken place at all seats but the third of the simple fractures; there was a rupture of the muscle and I have some deformity of the clavicle and scapula and a non-union at the point described. And I would like to know in a case of this kind, how any man can apply a dressing, how he can secure a perfect apposition and maintain it by any surgical dressing or surgical appliance? The great difficulty in making positive statements of this character is that we may in a short time be confronted, as oftimes happens when a railroad is sued, with the statements especially of an able man like Dr. Lemen; he is an able surgeon and inasmuch as he has taken this positive stand how can we avoid conflict when we are not having the best results in practice?

Dr. LEMEN—There is just one remark that I would make in addition—and yet I doubt the propriety of making it a matter of record—but I have always looked first upon science and results to be the first consideration, the first duty in the position that I have always occupied, and I do not feel that I should have my views, honest convictions restricted for the mere fear that perhaps it might not suit the railroads or the selfishness of the other corporations that I might work for. I believe we should rise above these things; we should stand upon a higher plane than to allow for one moment the position that we occupy toward a corporation to prevent us from righting ourselves in regard to scientific facts. I perhaps am a little more outspoken than the most of men, but it is due to my bringing up and I perhaps can not help it—built that way.

Dr. GALBRAITH—I do not think the Doctor understood the gist of what I wanted to convey. It was not for the protection of the corporation nor the individual, it was the protection of the surgeon himself. I have a deformity in this case and a non-union, and I do not know how anybody could overcome the difficulty and secure better results than I did; certainly could not apply any dressing, could not secure apposition, on account of the serious complications and multiple combination of the fractures. It was not for the purpose of protecting any corporation—it was simply the individual. I do not feel I am responsible for the result I have got in this case. While the deformity is slight, there is some.

Dr. LEMEN—I believe that it is true in our profession as well as others, there is an exception to all rules and the exception very often proves the rule. But I was speaking about general results.

A Doctor's Button.—A badge as an international insignia for physicians has been recently proposed. It is a button in the form of a circular shield, in the center of which is a modified form of a Maltese cross, opposite the arms of which are the letters "M. S. O. H.," meaning medicine, surgery, obstetrics and hygiene. The button is of gold, and the cross is of red. This may be unnecessary, as the profession is "of the people, for the people and by the people."

COMPOUND COMMINUTED FRACTURE AT THE KNEE—REPORT OF A CASE.

Read at the Third Annual Meeting of the American Academy of Railway Surgeons, held at Chicago, Sept. 23, 24, and 25, 1896.

BY W. A. WARD, M.D.

SURGEON TO THE NEW YORK, CHICAGO AND ST. LOUIS RAILWAY. CONNEAUT, OHIO.

Compound injuries of the knee have at all times been considered most serious in character, more especially when complicated with fracture; in the latter the knife and saw have been considered indispensable, their absence fatal to the life of the patient.

Thus Erichsen (System of Surgery) in speaking of this class of injuries of joints, says: "This is more especially the case when the knee is the articulation injured; extensive laceration of this joint, more particularly complicated with dislocation or comminution of the bones, being cases for early amputation." Later Dr. Ashhurst (International Encyclopedia of Surgery) in discussing "Conditions calling for Amputation" places it more mildly by the remark, "Compound fractures into the knee joint may be considered a cause for amputation," yet when taken in connection with the text may almost be considered imperative.

Since the days of antiseptics, which may not inaptly be termed the New Surgical Dispensation, surgeons have become bolder and conservative treatment has in a measure supplanted the more radical, with varying degrees of success. Each successful case undoubtedly carries with it one or more practical points; and, if the report of the following accomplishes that purpose, the object of this paper will be fulfilled.

S. M., aged 38, Finn, laborer, married. On March 13, 1896, while at work at the base of an ore pile on the P. & C. docks at Conneaut Harbor, about 2:30 P.M., was injured by a mass of frozen ore which rolled down the side of the pyramid and caught his left knee between it and an ore bucket. He was at once conveyed to his home about half a mile distant, and surgical aid summoned. On arrival found Drs. Baker and Tower present. Told them I had been requested by an official of the company to take charge of the case. Had been telephoned for and word returned I could not come, which was a mistake and accounted for my tardiness, as I had only a few moments before received word. Patient was under chloroform, and the doctors assured me that "the head of the tibia was comminuted and the joint open, that finger could be readily passed into the joint through the external wound and fracture plainly felt; that they had adjusted fragments and sutured external wound." By palpation the diagnosis of comminuted fracture was readily confirmed, the head of tibia being broken into at least three pieces; also dislocation of head of fibula with transverse fracture of shaft about an inch below. Inspection also revealed a wound on extero-posterior surface, along lower border condyle of femur, some three inches in length. After explaining to friends the serious character of injury, that amputation might be required, etc., was willing to make an attempt to save the limb, and so decided. The wound was dressed with iodoform gauze, limb placed on a double incline plane well padded with sublimated gauze, and a padded Levis splint anteriorly, bandaged, and patient conveyed to bed. Morph. gr. ¼, to repeat as necessary. Corrosive sublimate solution was freely used from first to last.

8 P.M. Knee and limb swelling, making bandages tight, considerable pain. On removing bandages blood welled freely from wound, which was gaping and stitches tense. Hemorrhage was readily arrested, parts cleansed and redressed. Ice bag applied over knee, which was protected by a folded towel placed underneath bag.

14th, 9 A.M. Still oozing, swelling increasing, limb inclined to roll inward, pain severe notwithstanding morphia. Complains bitterly from slightest motion of the body, evidently splint not meeting requirements and some other device loudly called for. Redressed wound and adjusted as well as possible, ice bag continued.

2 P.M. Assisted by Drs. Tower and Baker, removed double incline plane, bathed limb thoroughly, cor. sub. sol. not forgotten, and placed in a Smith's anterior wire splint with a foot piece; adhesive strips applied to sides of leg and fastened to

foot piece in the ordinary way for extension, splint extending over fully two-thirds of thigh, limb being supported by a continuous series of strips of a common roller bandage 2½ inches wide, whole length of splint, fastened upon either side by pins and then suspended in a Salters cradle. Sutures removed and wound drained by iodoform gauze crowded well into joint, over which was placed iodoform gauze and sublimated cotton, held in position by the strips of bandage supporting limb. Ice bag replaced and morphia as necessary.

15th, 10 A.M. Very little pain since yesterday P.M. Pulse 90, temperature 99.6, tongue coated, bowels inactive, enjoys his pipe, had a fair night. Wound oozing, dressings soiled. Comp. cathar. granules (Whitbeck's) ii, repeat in evening if necessary.

16th, 9:30 A.M. Pulse 90, temperature 99, no action of bowels. Comp. cathartic pills ii every six hours until bowels move.

17th, 9:30 A.M. Pulse 90, temperature 99.6, a costive movement of bowels. Soda et potass. tart. a tablespoonful once in four hours until proper action secured.

18th, 10 A.M. Pulse 90, temperature 99.

19th, 9:30 A.M. Pulse 90, temperature 98.6.

20th, 10:30 A.M. Pulse 90, temperature 98.4. Outer dressing to wound unsoiled for first time.

21st, 10:30 A.M. Very comfortable. Ice bag discontinued.

22d. In redressing wound omitted drainage.

23d. Very little swelling of knee.

25th. For past two days had had a severe pain in middle third of leg, commencing about 5 P.M. and continuing into the night. Pulse 80, temperature 98.4, tongue coated, hydrarg. chlo. mit. gr. ss. once in three hours for three doses (from which bowels moved thoroughly), quinia sul. gr. ii every three hours. Quinia continued for two days with complete relief.

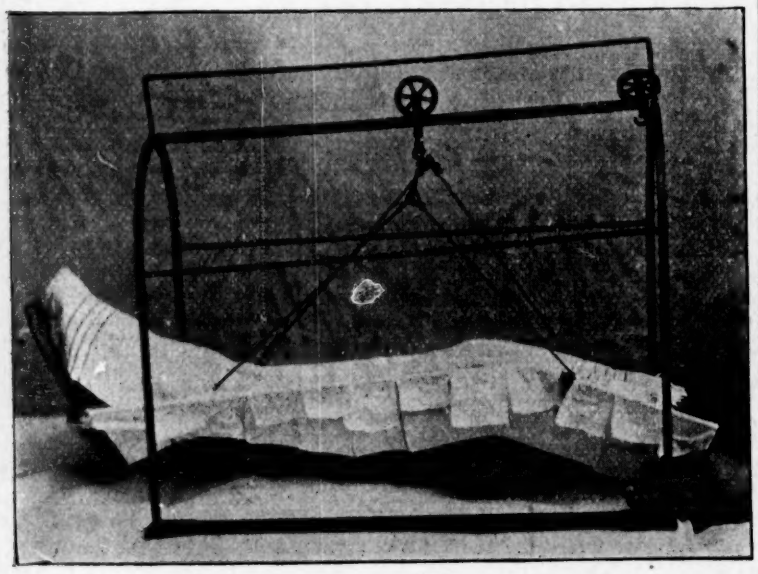


FIG. 1.—Appliance for support of fractured knee.

April 15. Wound closed.

20th. Osseous union fair, motion of joint more than expected, flexed and extended knee quite a number of degrees. Limb heretofore kept slightly flexed, readily straightened. Bathed thoroughly and placed in plaster Paris cast. On the next day (21st) to my surprise found patient dressed, sitting in a chair. He at once commenced getting about on crutches and progressed rapidly.

May 3. Complained of pain in lower third of leg, inner side. Cut off cast, and union appearing good, omitted splint of any kind, simply a cotton compress and bandage. Motion from extreme extension to very near right angle.

The pain continued, sometimes in leg, at others in foot, or in both, of a very severe character, notwithstanding treatment, which was both general and local; among the latter liniments, blisters, cupping, massage, etc., until July 2, when an interrupted galvanic current was used with marked relief, repeated on the 5th, and no complaint since, although it was again used on the 13th. At latter date motion was nearly complete, and used only a light cane in walking.

There is a little deformity on outer side, owing to excessive callus formation and undue prominence of head of fibula, otherwise the result is as complete as could be wished.

In reviewing the management it is unnecessary to comment on the strict antisepsis which was maintained, the drainage or antiphlogistic of cold as applied by the ice bag. To do so would only be to repeat what has oft been reiterated heretofore; but to the mechanical device, which, to my mind, proved a strong link in the chain leading to the result, I wish to call special attention, not that there is anything in it new or original, for there is not.

The Smith wire splint, with the attached strips of bandage as applied, afforded a bed and support to the limb, held it firmly and secured perfect rest and repose for the injured parts. The facility or ease by which the wound could be reached was also important, to accomplish which we had only to loosen a couple of the strips upon that side, turn them back underneath, or if soiled remove entirely and replace with new, take away the dressings, which were then entirely free, bathe, or do whatever necessary, apply fresh dressings and readjust the strips, all without any handling or moving of the limb whatever; a great convenience, as it was deemed advisable to redress at each visit for some ten days, on account of oozing, and at longer intervals thereafter until healed. Pus was not at any time visible. Strips were carefully examined each

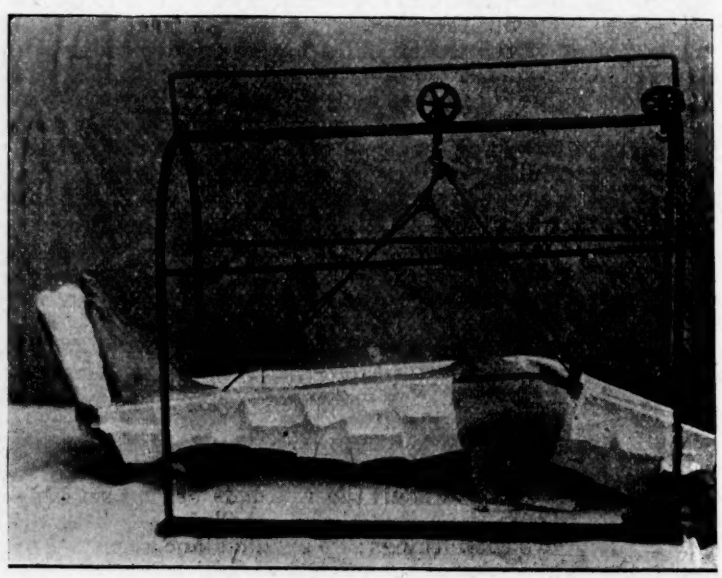


FIG. 2.—Support for fracture of knee. Bandages loosened for dressing wound.

day, to see that each remained properly adjusted, or all bearing equally. When we desired to inspect the sides or posterior surface at any point, we loosened one or even two strips on one side; if more desired, readjusted ones already loosened, and proceeded as before. For the anterior surface, simply lifted the covering which had been folded and loosely laid thereon.

By the Salters cradle, in which it was suspended, extension was maintained by the heft of the limb and the pitch of the incline, and thus kept uniform. If the patient moved up in bed (he could readily do so himself unassisted), or if from any cause slid down, the pulley automatically rolled up or down the incline, creating no disturbance. When the patient was moved to the right or left, the position was immediately accommodated by the swivel by which the cross bar was attached to the pulley, thereby affording quite a range, or even allowing the bolstering of the patient without the least inconvenience.

By the cord and hook in the ceiling, or a gallows placed by the side of the bed, the extension is main-

tained by the obliquity of the cord. If increased, then extension is increased; if lessened, extension lessened, until at the perpendicular it becomes null, and if perchance it passes beyond, then we have a crowding; therefore, to have uniformity of extension by this means, it is necessary to secure your patient against any sliding up or down, a very uncomfortable thing for him, but not required by the cradle, hence its advantages. The cradle I have found of inestimable value in severe injuries of the leg necessitating confinement to the bed, no matter what kind of splint was used.

It will be noticed that with the exception of April 20. when passive motion was made simply as a test, the joint was kept in perfect quietude until the removal of the plaster splint, May 3, after which patient was instructed to gently exercise it each day—another refutation of the idea of motion, either passive or otherwise, being essential against anchylosis.

DISCUSSION.

Dr. SCOTT—I happen to be one among the number who believe it is all right to use chlorid of mercury in the joints. While that practice is condemned by some of the leading surgeons, I believe it is justified under certain circumstances, and I believe as a railway surgeon in using chlorid of mercury in the joints. I have used it in the cranium and I believe it can be used in the joints. When we consider the fact that a majority of the wounds which we have to treat in joints are infected when we are first called to see them, full of dirt and various foreign substances, and owing to the fact that we may have some difficulty in removing all foreign substances, all sources of infection, it is justifiable to use an antiseptic for the purpose of destroying those germs that remain. I believe it is good principle and good practice all the way through, and as I said a moment ago, I presume the Doctor's treatment was successful largely on account of the fact that he used drianage and the wound was fortunately situated for the purpose of getting good drainage. In a similar case of my own, a young physician—a young homeopath, by the way—who was afflicted with pulmonary tuberculosis in an advanced stage, but continued the practice of medicine, while whipping his horse one day was kicked on the knee, and the result was a compound comminuted fracture of the tibia which went through the skin and the synovial membrane about an inch and a half long; the lower half of the patella was simply pulverized. I was called to see the man in a short time after the accident. On examination I found the injury I have described, also a lot of dirt on the wound; found some bits of underclothing in the wound, and having gotten him in proper place, I made the opening larger and irrigated the wound thoroughly; and by the way, I believe we can not clean a wound of this character without the use of water in a stream; I do not believe we can clean it by sponging or dropping or anything of that kind, but it needs a good strong stream of water to flow into the cavity in order to flush. I used the bichlorid of mercury, just as the Doctor has stated; after I got through I was not satisfied with the opening that existed in the joint, I stitched up part of it because it would not be of service to me, but I made two openings on either side near the lower part of the joint as far back as I could go, put on the drainage, left a piece of iodoform gauze to the front, placed the limb in an inclined plane, gave the patient a little medicine, I forget what; although he was a homeopath, I think I treated him by the usual methods—he did not ask any question about what he should have—and left him alone; changed the dressing every three or four days, but the result was something surprising, because I was afraid his pulmonary trouble would have some influence on the result. The patient, however, seemed to get no worse during the time he was laid up with this injured joint, and finally made a good recovery, got excellent motion, hardly a bit of sepsis connected with the case. I think the good result in my case was due chiefly to the openings referred to, the excellent drainage and perfect cleanliness and antisepsis combined.

Dr. REED—I was very much pleased with the Doctor's paper and also very much interested in the remarks of Dr. Scott, but I must take some exceptions in reference to one point which each of them recommend, both in the paper and in the remarks on the paper, and that is in reference to drainage. I most fully concur with them that asepsis or antisepsis is one of the secrets of success in the treatment of joint injuries, as well as other injuries, but as to the use of drainage it is a question in my mind and one which I seriously question, except when you have something to drain. I do not believe drainage adds one particle to the recovery of an injury to a joint or to any other traumatism unless you have absolutely something that you want to drain. If you have suppuration of a joint, I should undoubtedly use drainage. But my experience is that the use of drainage in joint injuries is absolutely useless unless you have something to drain. I used to use drainage in almost every injury, whether of the joint or any other part of the economy, but during the last three or four years I have almost entirely discarded drainage, except when I have had a reason for it. In amputation of the limb I do not use drainage, further than the use of a little gauze for two or three days to assist by capillary attraction the discharge of the liquids as they accumulate, and after that take it away, and in the treatment of joint injuries—and I have had a good many—I have discarded drainage unless I have something to drain. If I adhere to the principles of asepsis or antisepsis I do not have suppuration, hence there is no use for drainage, and I believe you get along as well with asepsis or antisepsis and mobilization. Because when you have drainage you have an opportunity for the introduction of germs into the wound which you do not have if you do not have drainage. And so I must take exception to it, and I base my exception on personal experience as well as the experience of others who were at one time advocates of drainage and have discarded it.

Dr. E. WYLLYS ANDREWS—Admitting the tendency of modern surgery to abolish drainage, yet possibly it is not true that this applies to traumatism equally with the wounds which the surgeon makes in operating. The experiments of Robb and Schimmelbusch have clearly shown that we never really sterilize the skin in its deeper parts. In other words, while we may sterilize the surface of the skin so that it is not possible by mere contact to infect, yet that same skin a few hours later will be septic, because out of its glands material has been poured which carried with it microörganisms, therefore I must say as Dr. Reed has done, surgeons are drifting away from drainage as far as possible, because experience has shown that the moist serum about wounds in every case in twenty-four hours is septic. It is necessarily true that the wound becomes septic where the drainage tube comes out. Why should we assume from that that wounds made through dirty clothing or with blunt or sharp objects themselves septic, should not be subject to the same rule? The writer states that he did not open this wound for twenty-four hours after seeing it, probably because it began to show sepsis, and that would indicate immediate drainage, if not flushing. The knee joint is so complicated that it may almost be said to contain separate pockets, the bearing of which is that to drain a knee joint thoroughly a large number, or more than one opening is invariably necessary, as Dr. Scott has shown. In his case he found for complete drainage it was necessary to make two openings. In order to thoroughly drain a knee joint it is necessary to make several openings; exit must be supplied from six points: one each side of the patella above the condyle; one on each side of the lower border of the condyle, because fluid will gravitate there, and a pair of drainage or a single drainage tube will be necessary well above the patella.

Dr. SCOTT—Dr. Reed made the point that he never used drainage unless he had something to drain. I agree with him, and that is a good rule to practice in general surgery, but I want to make this point: in the knee joint we may have something to drain. Whenever we have a compound comminuted fracture involving the knee joint we have something to drain and if you stitch up your wound the opening in your synovial membrane may close up, you have a sufficient source of irritation there by way of traumatism to cause an outpour of the synovial fluid, even if you have no blood, and you may have both. I believe, laying aside the question of direct infection or the danger of infection following, it is better for that joint that that fluid should escape, and you know it is good practice in simple inflammation of the knee joint to let out the fluid under the skin, and if that is the case in simple uncomplicated inflammation of the knee, why is it not good practice in injuries of this character to let that fluid out? I believe it is the best practice by all means to get that fluid out of there or give it free opportunity to escape.

Dr. REED—I know that the Doctor has taken the ground which has been taken by many eminent surgeons, and a position that I have taken myself in the past but which I have discarded because I find I get along just as well and better without it. We admit that in a compound or comminuted fracture of the knee joint that we have or may have the blood serum, etc., exuding into the joint, but is it necessary for us to drain under all circumstances? Now I say I am in favor of

drainage when necessary, but unless it is necessary I do not want to drain; for instance we have an involved joint lopping off of the condyle in the elbow, does any one think of opening the elbow in a fracture of that joint, and everyone must admit that in that fracture there is blood and serum in the joint. Nobody ever thinks of opening it; yet those cases get well without disturbance or interference of the motion because of immobilizing the joint; the patient gets well and we do not have much trouble with it. I take that as a cause for not opening the joint. If we take the Doctor's argument in question and say because there is blood and serum exuding into the synovial membrane this is a reason for drainage, when we have a condyle fractured and there is exudation of blood and serum we should drain, but we do not drain but depend upon absorption. So in any joint I do not drain and I have better results, unless I have septic material or something of that sort, that would cause a destruction of the knee joint. I base this on my experience, not for argument. I say in my experience in this line of surgery and in treatment of the injury to the knee joint I get better results when I do not drain than when I do, unless I have suppuration or something that is destructive to the knee joint which will not absorb.

Dr. WARD—It appears I have only been attacked on one part of my platform, and that is drainage. I use my drainage just as I do anything else; when I think it is called for I use it; if not, I do not. If in a given case I have a large amount of oozing, dressing completely soiled through every twenty-four hours, I keep it open; just as soon as it becomes reduced in amount to where I think it safe I remove my drainage and allow my wound to heal. The point also to which I desired to call attention was the appliance, the comfort and convenience of my dressing. I do not know of a man that has ever used such an appliance that would consent to use a double-incline plane for injuries of the leg or knee joint. I have not tried it in fractures of the femur, but I never put it on a person yet but what rejoiced in the comfort it afforded, after having had some other dressing upon the limb.

BURNS AND SCALDS.

Read by title at the Third Annual Meeting of the American Academy of Railway Surgeons, held at Chicago, Ill., Sept. 23, 24 and 25, 1896.

BY C. K. COLE, M.D.
CHIEF SURGEON MONTANA CENTRAL RAILWAY.
HELENA, MONT.

In our work as railroad surgeons we are often called upon to treat burns and scalds in their various forms and degrees, and nearly as often find an unsatisfactory state of affairs regarding the condition of the patient. The severity of the burn, its first treatment by rough hands, and the time since the infliction of the injury are all important factors. These, together with some hints as to methods of treatment, will be considered.

Often we find a patient begrimed from head to foot with coal dust, oil and cinders, suffering with a severe burn, received hours before, with the injured member drenched in machine or engine oil and wrapped in dirty, oily waste, and an internal drenching of whisky or brandy. This condition must be met promptly, and here begins the tiresome task of cleansing and rendering the parts aseptic. These are the times that try our patience.

With no means at hand to dress wounds in an emergency, especially when "out on a run," our engineers and firemen can not be blamed for doing the best they can; on the other hand, it is a wonder why there are not more serious results following an improper first dressing that has remained for hours favoring, if not producing, sepsis. With modern surgery we are able to meet these emergencies successfully and bring about satisfactory results. How best to do this will claim our attention.

As far as the conditions, treatment and results of burns and scalds are concerned, it is not deemed advisable to lay down any different line of treatment, they are in all things practically identical; therefore the term burns will include both burns and scalds.

While many of the earlier authors classify burns, according to the extent of the injury, in six degrees, the simpler classification — three degrees — is here adopted for the sake of brevity and the further reason that we believe the distinctions in the six degrees are practically unnecessary, and are in a measure confusing. The classification adopted is as follows (International Encyclopedia of Surgery, Ashhurst.):

First degree. Hyperemia, erythema; irritation or inflammation of the skin without vesicles.

Second degree. Vesication; inflammation of the skin; formation of vesicles or bullæ.

Third degree. Eschars; gangrene, superficial or deep, involving the skin or other subcutaneous tissues; carbonization of part or of entire body.

In the first degree there is rarely any constitutional disturbance (it is true that a severe case of sun burn may prove fatal), the diffused redness of the surface, some tingling or smarting pain, and occasionally some swelling are usually the only symptoms manifest; yet in rare instances the internal complications are a serious factor, depending on the patient's constitution, individual peculiarities, the impression on the internal organs being made through the media of the sympathetic and sensory cerebro-spinal nerves. Exfoliation is complete within a few days and the skin is again normal. These symptoms are also found in burns of the second degree, but intensified because of the greater heat producing them, and in addition there is serous effusion and the formation of vesicles, following the intense hyperemia, either appearing at once or within a few hours; in some cases they continue to form for two or three days. It often happens that the vesicles burst because of the rapid effusion; when this occurs the epidermis lies in shriveled whitish folds on the super-sensitive, inflamed skin, causing pain and uneasiness, and when touched this inflamed, raw surface gives rise to intense pain. Sometimes the usually transparent serum is streaked with blood. When there is no ulceration we may find the epidermis replaced in from five to ten days.

The severity of the burn, the condition of the nervous system and susceptibility of the patient influence the constitutional disturbances. Some authors affirm that in this degree, "in severe cases shock with prostration, even immense prostration, is always present." In our experience, typical second degree cases have been treated with shock and prostration practically absent. Death may be instantaneous from collapse, or perhaps more properly neuro-paralysis, from syncope and suffocation (rarely met with in railroad injuries). If death is not sudden (in the common acceptation of the term) it may be prolonged for hours or days and result from collapse, coma, bronchitis, pneumonia, etc., thoracic lesions, lesions of the adbominal viscera, enteritis, hemorrhage, peritonitis, exhaustion, gangrene, septicemia, etc. With intestinal complications, death may result from ulceration.

The definition given of burns of the third degree indicates plainly the prominent symptoms; the eschars vary in depth and extent; the destruction of tissue, depending on the degree of heat and duration, may be of the skin only, or all the soft and bony tissues of a part may be destroyed. This total carbonization, while not common, could easily happen to one pinioned under a wreck.

If the person survives the shock, we have a group of grave conditions to battle with; severe as are the lesions appearing in the second degree, they are not

to be compared to those now under consideration. Shock is so pronounced that the question often arises, Can anything be done? I have had in my experience cases in which the burned surface was so extensive, the burns so deep, the shock so intense, that it seemed almost useless to try to do anything except relieve the suffering. Recovery did take place, convincing us that while there is life in the body, no matter how severe the injury, our efforts may be rewarded with a life saved. In this class of burns, the constitutional symptoms are usually manifested very early. We may find our patient comatose, from cerebral congestion, with a speedy death. Often there is general congestion of the internal organs, especially the lungs and kidneys. *Albuminuria is always present.* During the intense inflammation, suppuration is active, and the sloughs are rapidly cast off, leaving an exquisitely sensitive ulcerated surface rapidly covered by granulation.

During the process of suppuration, the patient is apt to suffer from exhaustion, intensified by venous or arterial hemorrhage. The nerve centers, intestinal canal and kidneys are now liable to inflammatory changes. At this time, too, albuminuria is produced. This sympton, albuminuria, is not always noted by writers on burns. In this connection, Dr. Thomas George Morton of Philadelphia, says: "The early presence of albumin in the urine has long been recognized, but not so generally as might have been expected, for even quite recently systematic articles have appeared on the subject, supposed to cover the entire question, without a word having been said upon this important pathologic change."

Among the complication of burns, we have intestinal inflammation and ulceration, varying from simple irritation, with perhaps diarrhea, to the stage of ulceration and extensive destruction of tissue. The respiratory organs are often involved. Laryngitis following the inhalation of steam, with marked symptoms of edema of the glottis, dyspnea and intense pain. In burns of the neck and chest pneumonia and bronchitis are frequent complications. In addition to these there are the purely local complications, which include erysipelas, gangrene, deep sloughing and dangerous hemorrhage.

Among the most dangerous complications which can possibly arise, is that of a severe burn occurring at the same time that other injuries are inflicted. This is a condition of affairs which pertains almost exclusively to railway surgery. It is a subject on which the text-books generally do not even touch. No graver complications in emergency practice can confront the surgeon than that of a severe crushing or other injury such as daily occurs, complicated with an extensive burning of the surface of the body. The complication is made graver if, as not infrequently happens, there is considerable hemorrhage. In such a case the shock impression is greatly intensified and the probabilities are that the patient will speedily succumb. In any event it is the duty of the surgeon, however hopeless the outlook may seem, to take immediate and vigorous action with a view of saving or prolonging life. The question here would inevitably arise as to which form of injury most seriously threatens and consequently requires first attention. Steps to prevent further hemorrhage, attention to the condition of the heart and nerve centers, bringing about reaction from shock and removal to a suitable place for further attention, would seem to be the chief immediate indications and perhaps in the order named. It is impossible to lay down definite rules for the guidance of the surgeon beyond these general considerations. Here, as elsewhere, his own good judgment, common sense and ability to apply quickly and correctly his knowledge must govern. The ideas advanced and rules of practice laid down in the management in this class of injuries by the older writers, are at the present day modified only to such an extent as our modern surgical practice has been changed by a better understanding of antisepsis, coupled with a better understanding of certain reflex nervous phenomena incident to traumatism of the surface of the body. As danger to life in burns of the first degree is in direct ratio to the amount of surface involved, so also are the congestions of the internal organs in large measure directly proportionate to the same cause.

This statement is not invariable or absolute, inasmuch as the danger to life due to these congestions, which not infrequently go on to an actual inflammation, are often very materially modified by the nervous temperament of the patient. A patient of marked nervous impressionability, susceptible to the immediate effects of pain, with a surface burn amounting to little more than an erythema involving perhaps half the surface of the body, if he does not die early from shock may subsequently die of pulmonary edema, pneumonia, bronchitis or some gastro-intestinal complication, death being directly traceable to inflammation of the mucous membranes of these organs, this in turn being directly due to paresis of the vasomotor nerves.

With reference to the treatment in these cases, too much stress can not be laid upon the importance of careful antisepsis. The wounds are always of necessity, when first observed, in a septic condition, and this applies with a special force when the subjects are train men engaged in the discharge of their duties. It is not sufficient to know that chemical antiseptics and germicidal lotions should be used. We must carefully discriminate as to the class of these agents to be employed in a given case. To illustrate, in a case which recently came under my observation, in which the patient's hands were both burned over the entire dorsal and palmar surfaces, the burns on each hand being of equal severity and involving the entire thickness of the integumentary covering, I tried the experiment of treating one hand with dressings of carbolic solution and carron oil, and the other with iodoform dusted over the entire surface after a careful washing with carbolized water. The recovery of the hand thus treated with dry iodoform considerably antedated that of the other. It would be obviously unsafe, however, to attempt this dressing in a burn involving a large portion of the surface of the body. A medical friend of mine, who is an ardent advocate of aseptic and antiseptic methods, recently killed a patient with an extensive burn involving the arms, neck and part of the trunk, by washing and afterward freely applying a bichlorid solution of the strength of 1 in 2,000.

The management of these cases involves many considerations. There is no department of practice which is more justly entitled to be denominated emergency practice than the management of the class of cases under consideration. We have to consider the prognosis not only with reference to life, but with reference to the probability of severe and lasting injury

to the nervous system in its relation to certain vital functions and also the probability of serious deformities, which may by prompt and rational treatment be wholly or in part averted, but which at a later period are extremely difficult to overcome. Of prime importance in the treatment is the necessity of making the involved portion as nearly as possible aseptic.

To accomplish this, the clothes having been removed in a warm room, all blebs should be punctured, shreds of clothing and other débris carefully removed; the surface carefully washed and mopped with some mild germicidal solution, preferably borosalicylic solution, or the standard Thiersch's solution, the whole carefully enveloped in multiple layers, first of borated lint and absorbent cotton, covered with rubber tissue, with either bichlorid or iodoform gauze, constituting the outer layers, held in place lightly by a few turns of a roller bandage. Among the newer remedies applicable in these cases there is one much vaunted and very justly so. I refer to europhen, which may be used in the form of powder, gauze or a 3 to 5 per cent. ointment; with reference to the latter preparation (the ointment) while it is almost uniformly recommended, I seriously question whether ts use is consistent with strict antisepsis. Europhen ihas the advantage over iodoform of being non-odorous, practically devoid of danger from toxic effects and, according to some authorities, is better than iodoform in promoting rapid healing, especially in suppurating cases. The exclusion of atmospheric air is a *sine qua non*. This was accomplished by the older practitioners in the use of applications of oil followed by layers of cotton batting. Since the antiseptic era, we know that these dressings constitute a nidus for the harboring and propagating of the various forms of bacteria. For the relief of pain and for its action in sustaining the enfeebled heart the use of morphia and atropia administered hypodermically is perhaps the best remedy to be employed. The use of ammonia, brandy, strychnia and camphorated oil is recommended to stimulate the heart before reaction has set in, but in my opinion in a large number of cases the judicious use of morphia and atropia is most satisfactory. For the relief of pain in superficial burns the use of bicarbonate of soda in solution as a topical application is strongly advised and in many cases where more elaborate treatment is impossible this is *par excellence* the treatment to be employed. The dressings should not be changed too frequently unless the character of the case necessitates the employment of special measures, such as the application of silver to redundant granulations, stimulating applications to promote the granulating process, skin grafting, special posturing, the use of splints or other retentive apparatus to overcome a tendency to cicatricial contraction.

Thiersch's method of skin grafting is probably beyond comparison the best, when such means are indicated. One of the commonest mistakes made in cases of severe burns is the neglect to use the positive means within our power to prevent cicatricial contraction. The tendency to this contraction, especially in the flexures of the joints, should be constantly borne in mind. The great difficulty in overcoming a deformity of this character by operative procedure at a subsequent period, and the comparative ease with which the deformity can be avoided, justifies us in severely condemning the surgeon who from carelessness or want of proper knowledge allows it to occur. It is true these contractions to some extent occur in deep burns, in certain localities, in spite of the most skilful attention which can possibly be rendered. Pains-taking care in the management of granulating surfaces, stimulating them when necessary, and hindering their too rapid growth, the transplantati n of skin, fixing the position of the parts with a view to antagonizing the constant tendency to contraction, are all means which, when intelligently made use of, are calculated to get the best result. After the formation of a new skin, massage frequently and systematically applied together with a reasonable stretching are useful adjuncts.

In these cases constitutional measures should be adopted according to indications; this includes looking after the alimentary tract, the nervous system, the use of general tonics, good food, bathing and outdoor exercise as soon as permissible.

The prognosis in cases of burns and scalds varies with reference, 1, to the degree and extent of the injury; 2, with reference to the age, sex and individual peculiarities of the patient, together with the manner in which the accident occurred; and 3, the surroundings of the patient during the progress of treatment, the time when the first assistance was rendered and the intelligent application in detail of approved methods.

A CLINICAL STUDY OF THE SABULA FOOD POISONING EPIDEMIC.

Read before the Iowa State Medical Society, Marshalltown, May 21, 1897.

BY A. CRAWFORD, M.D.
MILES, IOWA.

The most extensive and serious outbreak of food poisoning ever recorded in the history of Iowa, occurred in the eastern part of Jackson County, in the fall of 1895. On September 11, at a farmhouse three miles from Sabula, there assembled about three hundred guests to witness a marriage ceremony and partake of the good things provided for the occasion. Within a few weeks thereafter, over one-third of the entire company were sick and seven deaths had occurred.

That the disease had its origin at the wedding, could not be doubted, as there was absolutely no serious sickness among the scores of families who were not present on that occasion, nor had the health of the community been better for years, than during the month preceding the epidemic. The house at which the wedding occurred is well located, and there is no history of disease having existed there for many years. The water supply was drawn from a deep well drilled in the rock and so located that drainage or surface water could not contaminate it. The well was in constant use by the family and servants, while all remained in their usual health until after the wedding. An effort was made to show that the disease had been carried to the wedding by some guests from a distance, and that the crowded rooms and heated atmosphere favored the rapid spread of the virus. That it was not thus carried is shown by the following facts: 1. No such disease existed at the home of any of the guests. 2. No case occurred among the scores who were engaged in caring for the sick, during the five weeks following the outbreak, excepting such nurses as had also been wedding guests.

At the beginning of the sickness, the writer was strongly impressed with the idea that the food was the source of infection, and as his investigations advanced,

he became fully convinced that such was the case. When the first few cases were seen, it was thought we might be dealing with a late manifestation of ptomain poisoning, but as the cases continued to come down, this theory was seen to be untenable. It soon became evident that the disease was the result of the ingestion of food infected by some pathogenic microorganism, the exact nature of which was yet to be determined. No examination of the food could be made, as the first cases did not come under observation until one week after the wedding, but the testimony of the guests was such as to convince the most skeptical that the meats were not in prime condition. The ham was served in sandwiches and, I have reason to believe, was thoroughly cooked. The turkeys were killed the day preceding the feast, some of them were cooked the same day they were killed, while others were kept in the cellar until the next day and then baked in the oven. The chickens were killed the day preceding the wedding, cooked in the usual manner, and as soon as cool enough to be handled, the meat was removed from the bones, chopped, and placed in common earthenware jars. These jars were set on the cellar floor, and allowed to remain there until brought up to be served, more than twenty-four hours afterward. The servants state that no ice was used about the meats, and that the cellar was badly infested with flies. The weather was extremely hot, the mercury ranging between 90 and 100 degrees F. The pressed chicken was too soft to be sliced, so when served had to be dipped out of the crocks with a spoon. That the chicken was undergoing decomposition, the following letter from one of the guests, a man of unquestioned veracity, would seem to establish beyond doubt: "*Dear Sir:*—The general, and I think I may say the universal, comment here is decidedly against the food, and I believe that most of them would so testify on the stand. My own experience is this: I put a piece of the chicken, or at least what I supposed was chicken, into my mouth and it was so absolutely filthy, slimy and putrid to the taste that I spit it out and ate nothing else." I might add many more such statements, coming from the most reliable people in the community, including the officiating minister and his wife, but this is unnecessary. That some of the guests detected nothing wrong with the meat, I am free to admit, and the only explanation that can be offered is, that it was not all equally bad. A few of the sick denied having eaten any of the meats, but these exceptional cases may be explained by the contamination of other articles of food or drink.

An effort was made to direct attention to the ice-cream as the probable source of infection, but a careful investigation failed to sustain this claim. The cream was furnished by a vendor in Sabula, and as only a part of the quantity prepared was sent to the wedding, the remainder was disposed of to parties in the town, all of whom remained well.

A peculiarity of this epidemic was the great variation in time between the ingestion of the food and the first symptoms of disease. A careful study of forty-five cases, most of which were under the writer's care throughout the entire period of their illness, gives the following data: Of the cases, 50 per cent. came under observation between the fourth and tenth day after the wedding. Almost all of these began to feel ill on the fifth or sixth day, but many of them were able to continue their vocation for a week longer. Three taught school for a week after the first symptoms appeared. Between the tenth and twentieth day, 30 per cent. more came down, while the remaining 20 per cent. continued in their usual health until between the twentieth and twenty-eighth day. Those that became ill during the third and fourth week, were apparently as severe cases as those that were taken sick earlier. In 75 per cent. of the writer's cases, the highest temperature was reached on the first or second day after coming under observation. The average temperature, when first seen, was 102.8 degrees F. The highest temperature reached was 105.4 degrees F. The average duration of the fever was eighteen days from the date of the first visit. The mildest cases were feverish for a day or two only, while in the most severe cases the temperature did not reach normal for forty days. Over 20 per cent. of the sick were not confined to their beds, but assisted in caring for those who were more seriously ill. A few of the mild cases were apparently as well as usual in ten days, but the larger number remained weak and miserable for a much longer time.

The appearance of the tongue varied in different cases, and in the same case at different stages of the disease. In most there was a heavy white coating; in others it was brown, while in some it was denuded of epithelium, and was dry and cracked. Of a few patients, the tongue was so swollen as to make speech difficult. A fecal taste was complained of in some, and I found patients scraping the tongue with a knife to get rid of this very offensive symptom. Vomiting was present in 50 per cent. of the cases, while it was very persistent and troublesome in about 10 per cent. Diarrhea was present in about 30 per cent. of my cases, the passages being mostly of a greenish color and a very offensive odor; but constipation was the rule, and laxatives or enemas were often called for. Tympanites was not a prominent symptom and in but a few cases required treatment. Hemorrhage from the bowels was not met with in any of my cases. Epistaxis was noted in 18 per cent. A rash was present in six cases out of the forty-five. In three of these, only two or three spots were discovered, while in the others the rash was more abundant and characteristic. Profuse sweats were a striking feature of the disease, and the odor was so extremely offensive that frequent changes of clothing were necessary for the comfort of the patients. In 15 per cent. of the writer's cases, delirium was present, but in most of the cases it was of a mild character and of short duration. In the fatal cases, this symptom was constant toward the last. No serious pulmonary complications occurred, and only in a few cases was cough a troublesome symptom. Pain was the most prominent symptom in 75 per cent. of the cases. Some patients located their pain in the region of the umbilicus; others suffered but little from abdominal pains, but intensely from pain in the muscles of the extremities. The writer saw cases where the arms were almost as useless as if paralyzed and were exceedingly tender to pressure. In one instance, he found the patient with mustard drafts upon the forearms, so intense was her suffering. Swelling of the muscles was noticed by some. Dr. Pettit of Cedar Falls, who had two of the victims under his care, reported such a case to the writer. Hypodermics of morphin were necessary to control the pain in a number of cases.

The mortality was 6 per cent. All the fatal cases were under 30 years of age and four were between 14 and 20. Two deaths occurred in the third week, three

in the fourth, one in the sixth and one in the seventh. The last death was from perforation of the bowels. There was evidence of profound toxemia in all the cases that proved fatal.

In two cases postmortem examinations were made under the supervision of the President of the State Board of Health. The first body examined was that of a girl of 14 years, who died about the end of the third week. The following is a brief history:

L. W., aged 14 years. Always enjoyed good health. She was taken sick the fourth day after the wedding but continued in school a week longer. She consulted me six days after she began to feel bad, when I found her temperature 103 degrees, pulse 134. She complained of very severe pain in stomach and bowels; pain in eyes; general aching; nausea, etc. Between this and the date of her death sixteen days later, the temperature ranged between 100.2 and 104.2 degrees, often fluctuating 2 or 3 degrees in twenty-four hours, but with no regular curve. Constipation continued until the last week, when a very troblesome diarrhea set in. The passages were of a slimy character, green color and very offensive odor. Hypodermic injections of morphin were necessary to give relief from the severe abdominal pain. The immediate cause of death was progressive heart failure, the result of the profund toxemia.

At the postmortem examination the heart and lungs were found to be in a normal condition. The liver was decidedly enlarged, soft and lighter in color than usual. There was some enlargement and softening of the mesenteric glands and ulceration and softening of the cecum. The mucous membrane of the colon, for three inches below the cecum, was found to be injected and softened but showed no ulceration. The kidneys were healthy; the spleen enlarged, softened and very friable. The stomach presented evidences of inflammation throughout, but no ulceration. The duodenum was normal in appearance and pancreas healthy.

Portions of the various organs and of the muscular tissue were sent to the State bacteriologist and to Chicago for microscopic examination.

The second case was that of a young man of 18 years of age, who had been sick for six weeks. During the third week his temperature declined to a point but little above normal, and it was thought that he would soon be out of danger. A severe nervous shock occurred at this period, and his temperature soon rose to 104.2 degrees and continued high until death. Early in his sickness he suffered considerably, but after the relapse he did not complain of anything. Delirium of a mild character continued during the closing weeks.

The postmortem examination showed the heart and lungs to be in nearly normal condition. The liver was enlarged as was also the spleen. The cecum and colon were ulcerated throughout their entire length, but there were no perforations. In the small intestine there were patches of inflammation but no ulceration.

Sections of the muscular tissue and of the various organs were sent to the State board, to Dr. Le Count of Chicago and to Dr. Hildreth of Cambridge, Mass., for microscopic examination.

The report of Dr. William Royal Stokes of the Boston City Hospital, who examined the specimens sent to Cambridge is very full and complete. His anatomical diagnosis is as follows: Typhoid fever; broncho-pneumonia; general infection with the pneumococcus. This report is in harmony with that made to the State board by Professor Bay. Dr. Le Count reported embryonal trichinæ, when the specimens from the first case were sent him, but undoubtedly failed to find confirmatory evidence from his examination of the second, as he made no report.

Late in the fall the writer treated ten cases of typhoid fever, all of which occurred in families where one or more of the wedding victims resided. Nine of the patients were taken sick between the sixth and ninth week after the outbreak, at a time when nearly all of the other sick were convalescing. All these were typical cases of typhoid—no symptoms being wanting—and were in striking contrast to a similar group of the wedding victims. But two cases were seen outside of these homes, during the succeeding six months, so that no doubt could exist regarding the source of infection. If we accept the conclusion, that the malady was typhoid, we must admit that it was a very peculiar manifestation of the disease. One of the leading physicians of Clinton treated three cases as remittent fever. Two other physicians, after seeing a number of cases, independently reached a diagnosis of trichinosis. Dr. Le Count of Chicago assured the writer there could be no doubt about the epidemic being one of trichina poisoning. Dr. Pettit of Cedar Falls had two cases under his care and reached the same conclusion. Two of the local physicians made a diagnosis of relapsing fever, while others preferred to wait until the evidence was all in before making a positive diagnosis. Some of these physicians have treated scores of cases of typhoid during the past twenty years, and it seems strange that they failed to recognize the nature of the malady. If the specific bacillus of Eberth is insisted on as being essential to the production of the disease, it remains and must ever remain a mystery, how the meats became infected therewith, as there had not been a case of enteric fever in the community for nearly a year prior to this outbreak.

The treatment, it is needless to say, was determined largely by the diagnosis.

SURGERY ONE HUNDRED YEARS AGO.

AN HISTORICAL STUDY

BY DR. GEORGE FISCHER.

DEDICATED TO THE GERMAN SURGICAL ASSOCIATION.

TRANSLATED FOR THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION BY CARL H. VON KLEIN, A.M., M.D.

VII.—THE RISE OF GERMAN SURGERY UNDER AUGUST GOTTLIEB RICHTER.

(*Continued from page 1078.*)

No other German physician's style compares with Richter's; not one of them writes so beautifully, represents so clearly and instructs in such an amiable manner and with such a brilliant manner as Richter. He holds the reader so spell-bound that he can not stop. In his classic representation, clearness of expression and freedom of judgment he far surpasses his contemporaries. Later writers, like Dieffenbach and Stromeyer, can scarcely approach him. What he desired is contained in the preface of his work on "Ruptures," in which he says: "I wish to write a book which comprises the entire sphere of the art of surgery in a compact, but complete, explicit and concise form, a book void of all learned adornment, simply useful and for the express purpose of a surgeon, a book as simple as nature. It is much easier to talk scientifically than to converse on experiences. My intention is not to appear learned, for I am not writing for the learned, but exclusively for practical surgeons, wishing to be useful, instructive and plain to them. Greatly do I desire that there be not a single page in my book from which the practical surgeon can not learn something of use at the bedside of the sick." When, seventy years later, Dieffenbach published his "Operative Surgery," he extolled Richter's style by exclaiming: "Would that mine were such a book as his!" We press Dieffenbach's hand for the glowing tribute he accords his old friend, Richter. He, the genial operator, who recognized the best sur-

geons only by the clearness of their ideas and the simplicity of their presentations—for the best surgeons have ever been the best writers and are known by their style—thought Richter's writings worthy of being used as model lessons in the schools. In ingenuity and explicitness he found no German surgeon who could equal Richter, and thought his doctrines and principles still formed the foundation of German surgery; and everything that he wrote, as well as the style of his writings, he considered unexcelled, least of all, the art of presentation. Even when advanced in years, Richter wrote with genial ease and certainty, nowhere to be found in other works, so that Kurt Sprengel, in the year 1805, remarked: "Who of us medical writers living has ever attained Richter's style of writing, to say nothing of excelling it?" There was no trace of learning by citations. The histories of the bedside were brief and contained only the most essential parts, for nothing was more tiresome and boring to him than a dry, lengthy statement of a case, with all the minor uninteresting points; on the other hand, he always expressed his reasons therefor. His penmanship was elegant.

In duty bound to German surgery, we will review *Richter's Complete Works*, but will not, however, give an account of the contents of all of them, as they will again appear later. Nearly all of the short articles were published in Latin in the Commentary of the Göttingen Society of Sciences, but could be obtained in German by the public in general in the surgical library.

1. De prisca Roma in medicos suos haud iniqua. Doctor dissertation. Sept. 12, 1764. Six sheets. In it the assertion of Plinius is refuted that Rome was without physicians for 600 years, as well as the later assumption that this circumstance must be considered as a proscription instigated by Cato, who hated the Greeks and their physicians. Since Cato's time physicians were plentiful, although they possessed but little knowledge of science.

2. Casus medicus intumescentis et callosi pylori cum triplice hydrope. Four sheets, one copperplate. October 1, 1764. The pamphlet contains the description of a cancer of the stomach of a deceased patient, and of the section showing the condition of the part affected; nothing else of importance.

3. Varias cataractam extrahendi methodos succincte exponit are the introducing words of his address as professor. Three sheets, one copperplate. 1766. Richter upholds Daviel's idea (1745, described 1753) of removing cataract by extracting the lens, and gives the advantages of this method over that of pressing down the same, which is more successful only when the eye lies very deep in the socket and is very movable.

4. De dignitate chirurgiæ cum medicina conjugendæ. Lecture held Oct. 11, 1766.

5. Operationes aliquot, quibus cataractam extraxit, describit. Eighteen pages. This work, written for his uncle's 75th birthday (Feb. 4, 1768), records the cures by extraction, of two patients afflicted with a cataract.

6. Observ. chir. Fasciculus I continens de cataractæ extractione. Göttingen, by Dieterich. 1770. 158 pages. (Chir. Bibl. I, 157). In the same are thirteen chapters on the method of the operation, means of making the eye firm, a knife for making an incision in the cornea, how to cut through the capsule, the extraction of the lens, the adhering cataract, prolapse of the vitreous humor, affections of the pupil, callous cataract, ripe and unripe cataract, conditions after the operation; besides this, ten observations.

7. Obs. de bronchotomia et de herniis. In N. Comment. R. Soc. Gott. T. II., p. 54, read Aug.3, 1771 (Chir. Bibl. III, 328).

8. Chirurgische Bibliothek. Fifteen volumes. Göttingen, by Dieterich 1771–1797. With two volumes by Dr. Witting, giving index of names and table of contents. Translated into the Dutch language by Professor Jacobs. It is not easily comprehended now-a-days, what great influence this journal exerted toward the perfecting of German surgery. Everything new and the best possible that appeared in England, France and Germany, was offered in part to our countrymen, very minutely described and bound in a handsome cover. England is represented by some of her best talent, among them: B. Bell, Bromfield, Cheselden, Else, Gooch, Hill, Home, W. and J. Hunter, Kirkland, A. and D. Monro, Park, Pott and White. Among the French we find Chopart, Desault, Demours, Deschamps, Levret, Louis, Morand, Petit, Percy, Sabatier and Saviard: from other foreign countries, there were Acrel, Camper, Scarpa and others. Besides these the journal contains clippings from the best foreign journals; the transactions of the Parisian Académie des sciences, the Académie de Chirurgie, of the Academies of Vienna, Dijon, Sweden and of the Society of Physicians in London; then there are accurate extracts from the Philosophical Transactions, Medical Transactions, from the Journal de Médecine and many other things. We call special attention to the fifth chapter.

9. Obs. de morbis sinuum frontalium. In N. Comm. T. III. p. 85, read April 4, 1772, (Chir. Bibl. III, 337).

10. Treatise on the Extraction of Cataracta, with copperplates. Göttingen, by Vandenhoek, 1773, 216 pages. The former Latin writings are made the basis, but considerably augmented and improved. This work is of great value in-as-much as the German surgeons have been won over to perform this operation, which had almost entirely been banished from the science of surgery and left to the wandering oculists. It was hard for them, though, to begin at a time when the laity, as advertised by the charlatans, who always promised the best results with the greatest assurance, was accustomed to demand the successful issue of an operation at the hands of the surgeon, a matter which seemed to depend on him alone, and every unsuccessful operation was thought due to his unskilfulness.

11. Obs. de amaurosi. In N. Comm. T. IV, p. 77, read Feb. 6, 1773 (Chir. Bibl. III, 344.)

12. De opportuno herniotomiam peragendi tempore. In N. Comm. T. V. p. 56, read May 14, 1774 (Chir. Bibl. III, 354.)

13. Obs. de staphylomate. In N. Comm. T. VI, p. 57, read March 18, 1775. (Chir. Bibl. III, 634.)

14. De herniis incarceratis. In N. Comm. T. VI, p. 67, read December 9, 1775. (Chir. Bibl. III, 634.)

15. Obs. Chir. Fasciculus, II. Göttingen 1776, 134 pages, contains works published heretofore on the following subjects: Hernias, cirsocele, tracheotomy, diseases of the nasal cavities, amaurosis, staphyloma. The chapters on the extraction of cataracts and polyps are new. (Chir. Bibl. IV, 312.)

16. Obs. de pterygio. In N. Comm. T. VIII, p. 50, read March 8, 1777 (Chir. Bibl. IV, 486).

17. Treatise on Fractures, Part I, 1777. Part II, 1779. Göttingen by Dieterich, with copperplates. Dedicated to King George III. (2d edition 1785; 792 pages.) Being a young man Richter did not dare to come forward with a text-book on surgery, but wished first to make a test of his power with this work. It was ranked with the best and caused scientific surgeons to attend to ruptures instead of the ignorant barber surgeons. Dieffenbach very truthfully remarked on this work: "His book, now yellow with age, contains a wealth of experiences, and, indeed, his style of presentation has no equal. . . it is a wonderful book and his most valuable production; what he describes, it seems as if you could see it in reality before you." In spite of these great merits, we must confess that principally the practical side of this branch was developed, of course, so completely, that later on but little was added, but neither anatomy was sufficiently considered, nor self-research noted in it, which fact Richter modestly confirms. He relied mostly on the works of Arnaud, Petit, Louis, Morand and Günz. This book established his fame abroad. In France it became known by Professor Rougemont's translation, was highly prized by Desault and B. Bell, as well as warmly recommended in their lectures.

18. Herniam incarceratum una cum sacco suo reponi per annulum abdominalem posse, contra chirurgum Gallum cl. Louis monet 1777. (Chir. Bibl. IV, 559.)

19. Report on Professor Siebold's cutting through the symphysis pubis according to Sigault in case of serious childbirth. Read February 21, 1778. (Chir. Bibl.IV, 578.)

20. Obs. de fistula lacrymali in Comm. T. I, p. 100, read May 9, 1778. (Chir. Bibl. V. 261.)

21. De agarico officinali, Progr. 1778. (Chir. Bbl. V, 698.)

22. Obs. Chir. de cancro mammarum et cataracta. In comm. T, II, p. 25, read Feb. 20, 1779. (Chir. Bibl. V, 517.)

23. De fractures cranii. Progr. 1780. (Chir. Bibl. V, 701.)

24. De remediis antiphlogisticis externis. Prog. 1780. (Chir. Bibl. V, 709.)

25. Obs. Chir. Fasciculus III. Göttingen 1780, 111 pages. Contains a chapter on pterygium, fistula lacrima, cancer of the breast, on rare diseases of the breast, cataract, agaricus, and on skull fractures, use of exterior antiphlogistic methods. Most of the above chapters had been issued in separate copies. (Chir. Bibl. V, 697.)

26. Obs. chirurg. In comm. T. III, p. 25, 1780, contains

chapters on amaurosis, fractures, atresia of the vagina, hare-lip, ptosis and pressure on the skull.

27. Elements of Surgery. Seven volumes with 45 copper plates, Göttingen by Dieterich, 1782–1804. This work, begun at a time when Richter had already taught and practiced surgery for fifteen years, was of the greatest importance to German surgery and in the arrangement and representation of the material no other could come up to it. This book was to form a mean between the useless brevity of a compendium and the prolixity of a treatise which went into the minutest details. Fractures and luxations have been omitted and of the instruments; only the most useful ones and least known are illustrated. The book was used by all the physicians and surgeons, from new editions published and translated into various languages, viz.: into the French by Morel, the Italian by Brera and Volpi, and into the Russian by Peken according to an order given by the Imperial Medical College.

28. Medical and Surgical Notes Especially made at the Public Free Academical Hospital. First volume (with one copper plate and seventy-one histories of patients. Göttingen by Dietrich, 1793, 315 pages. Reprinted in Linz in 1794. Translated into English by Thomas Spens.

29. Surgical Meditations. In Loder's Journal of Surgery, Vol. i, 1797. Cases of sphacelus, hernia and tumor of the stomach.

30. Historia aegrotorum quorundam. In Comm. T. xv, p. 29, read Feb. 21, 1801.

31. Obs. de phthisi pulmonali operatione chirurgica sananda. In Comm. T. xvi, p. 3, read March 9, 1805.

32. De usu purgantium in febribus nervosis, read April 28, 1810.

33. Medical and Surgical Notes. Vol. ii, 1813, 178 pages, Berlin. A posthumous work published by his son George August Richter.

34. Special Therapy. Twelve volumes, 1813–1836, Berlin. A posthumous work, published by his son, G. A. Richter. (Translated into Latin by Wallroth.) This work is not entirely the father's inasmuch as the son made various changes, but did not set apart his additions and so there are parts that clash with the elder Richter's views.

Richter was the best teacher of surgery in Germany. Although he founded no institution, probably on account of the lack of surgical material in Göttingen, still whole generations of physicians owe the basis of their education and intellectual bearing to him. There was not a single important city in Germany that did not contain one of Richter's pupils within its environments. His teaching talent was unapproachable. To believe this assertion we must abide by the judgment of his most prominent contemporaries (Blumenbach, Mitscherlich, Himly and Stieglitz). From the beginning of his career, Richter exhibited a great talent of expressing and explaining the deepest things in the simplest and clearest way. With a dramatic skill peculiarly his own, he pictured the whole course of a disease and knew how to revert the young minds ever tending toward hypothesis to simplicity, nature and experience. To every one, the disease on which he discoursed became plain; most masterly the symptoms and course were delineated, particular stress being laid upon the embarrassments of the physician and on the difficulties of treatment. Richter's principal aim was to dwell only on the practically useful doctrines. The effect of his very animated deliverance, yet free from all gestures and any affectations whatsoever, is said to have been extraordinary. The students were lost in admiration; even when less interesting subjects were presented they showed no fatigue and left the lecture and clinic highly satisfied and confident of being able to help themselves when placed in tight places at the bedside. Even those who had been educated at other unversities and practiced in large hospitals, considered themselves here transported to the pure source of practical knowledge. On account of this real practical aim, no one did more than he to cause students to throng to Stoll's clinic in Vienna and young physicians to travel to London and Edinburgh. Even if he was charged with neglect of demonstrating operations on cadavers, for which, however, the facilities were scanty, he had a greater chance to display his wonderful teaching power; the most difficult operations he made clear and apprehensible by means of a strip of paper or a chalk line. With a few bones on the desk before him, he would present a subject so graphically that all could grasp it like a vivid picture and he always had a large audience, while his colleague, in spite of expensive preparations, had but a few listeners. Richter took care not to establish a general set of maxims, because he knew that a single case might overthrow the theoretical structure, which had been founded on so many preceding cases. Self-sufficiency, bold, common assertions and authoritative decisions which he considered a reliable proof of ignorance, were repugnant to him; the experienced physician is often uncertain and undecided and only in the study-room and in the shop of the quack is he sure of his art. He frankly acknowledged it when he discovered a former idea to be incorrect; he knew that we often err, when we believe ourselves to be most certain. "I am liable to make a mistake, no matter how carefully I have searched for the truth; but I promise my readers, that if I detect any errors as I proceed, I will be the first one to rectify them." Richter was contented to work in a small sphere; although his hospital contained only fifteen beds he wanted no more. His principle was, "that not the number of patients make a practical experienced physician and that it does not depend upon seeing the sick, but to observe them. Strength does not come from eating, but from assimilating. One case thoroughly studied is worth more than 150 hastily glanced at; nature is not complacent enough to show herself naked to any one who casts a superficial glance at her." Richter proves, that highly talented natures do not require a great quantity of material to achieve much. Dieffenbach thought of him: "No one ever saw with better eyes in so limited a space and no one ever expressed in a more fitting way what he saw." How keen Richter's observation was, even when a young man, is shown by the following instance of ophthalmology: In a case of amaurosis he saw the retina several times in the white background of the eye and plainly discerned here and there red blood vessels and spots. This phenomenon he soon perceived on the entire retina and then again on only half of it.

Some of his contemporaries criticised Richter because he disregarded certain branches considered indispensable now. The proof for this criticism, Blumenbach and others succeeding him found in the following passage taken from the *Surgical Journal* (vii, 131): "A knowledge of polite literature is in nowise essential to the surgeon, and may be very detrimental to him if he takes the time of his solid occupations and devotes it to the study of polite literature, and moreover, it forms a convenient screen for the blockhead. When it became the fad among the medical writers to adorn their works with quotations of ancient Latin and Grecian poets, science was almost at a standstill. The best Latin scholars among the physicians were from the beginning not the best practitioners. Not he who reads much, but he who thinks much, will be a good practical physician. A great mass of undigested facts obtained from books is a positive detriment to a practitioner." To credit Richter with this passage is wrong, because it then represents a repro-

duction of the Englishman, Kirkland's, views. But taking for granted that Richter did fully coincide with them, it is essential to have read both his own and his colleagues' writings in order to understand that when he flourished his whip he had a right to do so, although his derision was at times exaggerated and consequently misinterpreted. With a certain amount of eagerness the great untalented mass magnifies the slightest errors on the part of these great men until they assume the proportions of huge sins, while their accomplishments are thereby forgotten and dwindle away. Richter may not have been learned according to the opinion of his times. We certainly consider him a most highly cultivated surgeon, for he was master of the entire literature existing then, as verified by his *Surgical Journal* and his work on the "Principles of Surgery." He was as proud of resurrecting an old forgotten truth as to discover a new one; even if he himself reaped no fame, science was nevertheless benefited. Just vice versa was the case with the great discoveries that were born daily and died daily; a new instrument or a new operating method did advertise the name of the inventor, but often did not promote the science of surgery. For one to be able to write a truly valuable text-book Richter thought he ought not only to be an experienced and intelligent surgeon and a well-versed author, but also a "very learned" surgeon who is thoroughly familiar with the whole science of surgery. He never neglected to preface his lectures with a list of the best works on the subject in question. But he hated all vain learned ostentation and considered the so-called literature of the ancients mere finery, that everybody could acquire who would sit down a few hours and select that which best suited his fancy. Thus originated his ironical remarks in some of his critiques; for instance, of Percy's work on the "Scissors": "It is impossible to penetrate the dense obscurity which shrouds the origin of the scissors (What a pity!) An impenetrable cloud covers that period when these instruments were first used in surgery (Sad! however, a piece of work for our medical antiquarians). Hippocrates, who mentions sounds, lancets, needles, forceps, hooks, etc., does not say a word of any scissors (It is deplorable!)." It was indeed wrong for him to occasionally sneer at botany, minute anatomy and physiology; for instance, he thought "that the anatomist was seldom able to follow the courses of the acids and foods through the system, and if in pathology nothing were permissible but what was approved by the anatomist, then very little would be done." Also it was wrong that he manifested no interest in some theoretic investigations, as the microscopic investigations of pus and blood, which, being too theoretic, he considered of no value or practical use; neither the knowledge of the spontaneous cure of aneurysms, because on account of its rare occurrence it could not be depended upon and no means existing to produce it. Whether he used a microscope at times has not been divulged. As an excuse for him we might say that physiology then was not closely allied to practical medicine and had not been blended with it. For years, Richter perceived that his uncle's vast amount of knowledge was of no benefit to science; and Baldinger, his well educated colleague, was so crammed with knowledge that he did not know how to use it, except in publishing a medical journal and recommending it to his pupils. (Once he published in the same the music of the four "Ranz des Vaches" as an important therapeutic measure to use in cases of homesick Swiss patients!) Baldinger, inclined to be rather talkative, often imprudently railed at Richter's studies and thought that, beside theoretic subjects, especially the lectures of old physicians, of which three excelled all others and which he presented as the most important types of that century—namely, Uncle Richter, his colleague Brendel and Professor Triller of Wittenberg—should be brought to the notice of young medical students. No wonder that Richter, a man possessing real practical talent, who had harvested the fine crops of practical surgery in England and in France, not only ridiculed the immense learning of Baldinger, for whom he had no sympathetic feelings, but, smiling in a self-conscious way at the honorable position he had attained in the two great sciences, surgery and medicine, he disdainfully remarked on his colleague's works. His judgment on the auxiliary branches of science was often more affected than a true issue of his convictions, mostly caused by Baldinger's low scoffing. Even if he tended more toward practical medicine instead of theoretic topics, he was well versed in most of the auxiliary sciences, which were indispensable to him when court physician, and often asked advice of his colleagues concerning points unintelligible to him and new discoveries in the same. His son as well as other students he advised not to neglect these studies, and was greatly pleased when they passed a good examination in them. How greatly some failed to appreciate the extent of Richter's learning is shown by the following example: Some one asked a student where the artery could be pressed together in case of the exarticulation of the upper arm, and was surprised to receive the correct answer, believing that Richter was not capable of teaching such knowledge. With him there was nothing like one's own experience: "Thirty pounds of argument do not prove as much as one grain of absolute experience. . . . It is unpardonably bold to oppose experiences on theoretic grounds. The most improbable, incredible occurrence is occasionaily true, the most convincing argument false. Experiences must be disproved by experiences." Once when a by-stander defended from experience a dental instrument displeasing to him, Richter complacently listened to him and frankly acknowledged that he had no experience in dental operations. It is not without interest to note that the same criticisms which Richter's contemporaries often passed unjustly upon him, regarding the auxiliary sciences, also befell Desault. Also his taunts on unfruitful learning have been misunderstood by many of his pupils.

Richter was an excellent physician as well as surgeon. Thus he confirmed his oft-repeated assertion that no one can be a fine surgeon who is not also a physician. Whoever saw and heard him at the bedside hesitated which most to admire in him, the penetrating physician or the operating surgeon. Yet Richter was incapable of giving a new rise to the medical sciences, although at that time, when he was more engaged in the practice of medicine than surgery, that science was in a deplorable condition and he had to ask J. Hunter, who had not yet received his degree of surgeon, to demonstrate the theory of inflammation and phlebitis. Richter even occupies a lower round of the scientific ladder as a physician than a few of his contemperaries, the Hanoverian Wichmann, for instance, who asserted that a careful and accurate diagnosis was the main thing, while Richter claimed that general therapeutics should be the physician's guide.

The special conditions were a matter of little consequence to him, because a physician can often successfully treat a case according to its general nature, and in the practice of medicine the important feature is the skill to generalize.

On the whole the diagnosis of all diseases is the *non plus ultra* of science and a perfect diagnosis therefore an unattainable ideal; but the practitioner may console himself that he can now and then successfully and absolutely cure diseases without having made a special diagnosis. Both volumes of his "Medical and Surgical Notes" prove Richter a physician. His models in medicine were the English and Schroeder of Göttingen, but particularly Stoll of Vienna, whom he respected most highly. In revising his "Therapy" some of his achievements for medicine were: The introduction of opium in various diseases and the administration of tartar emetic in small and frequent doses; he also restored purgatives to their rights, recommending them in nervous fevers, restricting them in gastric fevers, etc. He in nowise disdained household remedies and preferred to accept a medicine from a peasant than from an empirical physician. He hated unnecessary hypotheses and systems, which changed so frequently in medicine, for which reason he did not prize that science as highly as the more positive one of surgery. When young, he thought more "of the surgeon, with knife in hand, resolute and confident of his art, than the doctor, with pencil in hand, doubtful and irresolute." He then believed that: "All in all, medicine had done as much harm as good," being based mostly on conjectures. Free from all prejudice, he made his observations regardless of any system and thus we are enabled to see things just as we wish to see them. The period during which the systems held full sway were considered by him the most unfruitful for practical medicine. His opinions on the same appear in connection with the following article on "The Human Intellect," a sample of Richter's graceful literary style:

On the Human Intellect.—It is surprising how different the susceptibility of the intellect is in comparison with reason and proofs. Upon one person a proof makes a deep impression, on another none whatever. It is with the internal senses as with the external. One considers something beautiful, the other does not. Do we ever find three people agreeing on the resemblance of a portrait?

Indeed, the same person at one time may be convinced of a matter, while at another time he will laugh at the same; thinks something beautiful today which at some other time he thought ugly.

What nonsense people have believed since the beginning of the world; and not weak ones either, but very sensible people. I might declare that there is not a single sensible person who does not believe something which another sensible party ridicules.

We now consider ourselves very wise, but our descendants will surely wonder how we could have believed so much nonsensical stuff.

It all depends upon the first impressions, the habits, preconceived opinions, passions, physical and moral dispositions, etc. Poor human intellect! How can we depend upon you?

There are established facts which no one can doubt. Three times three are nine. Everybody in Europe, Asia, Africa and America believes that. But few of such truths are found in medicine. In it we have mostly possibilities. And so the wrangling in medicine will likely never cease. But about what are physicians wrangling? Let the philosophers do as much quarreling as they please, not even a crow would be disturbed thereby. But the contests among physicians are on life and death (Med. chir., Notes ii, p. 1).

On systems in medicine.—For some time the system trade has been flourishing among German physicians. Regarding this business we Germans are still hucksters. The English rid themselves of their damaged goods by sending them to us; we brush them up a little, sell them as the latest styles and the English laugh at us. This at least was the case with Brown's system.

It is, however, a very easy thing to manufacture systems. To make investigations, to discover new truths, to promote science requires brains, talent and effort. Systems, however, as they are now in circulation, can be arranged in the smoking room over a pipe of tobacco and then cleaned out.

Surely he does not know nature who spends his time making systems. Therefore I always consider him a very narrow-minded person who makes systems. That is the reason why all young beginners like systems.

There is also a little advantage in the manufacture of systems. We believe him who builds a house a more skilful artisan than he who hews only a stone or a timber for the same.

But what constitutes a system? I think that any one who wishes to arrange a system must necessarily, 1, be able to explain all the functions performed by the human body; 2, the effects of the medicines on the body, and 3, be thoroughly familiar with the nature of the disease. Unfortunately, we know very little of all these things. Hence, is it not madness to construct a system? Is it not like one who attempts to build a palace by putting together a few stones and some pieces of wood? Truly, to write coherently on matters of nature is next to a physical impossibility.

Thus is explained the feeling of the system-manufacturers that there is always something lacking here and there. Every one helps himself as much as possible by erecting and patching, the one in one way and the other in another; and finally each one has manufactured a system of his own, clashing with that of his neighbor.

But all patching and propping is of no avail. The first gale will blow the little structure over. So many of these little huts have been wrecked, that I should imagine they would get tired of building them. No system has been more extensively published than Brown's; and stood but a few years when it began to show cracks above and below.

The harm done practical medicine by this mania for systems is unlimited. But as long as the system remains confined to the study rooms, it is comparatively harmless. If applied at the bedside, though, its effects may be terrible.

This system mania has become very general, consequently, on the whole, a very bad thing.

Everyone tinkers at and patches his own system; not one concerns himself to increase the amount of useful truths, the chapter of remarks on human nature. It may be boldly said that for several years no good medical book has appeared in Germany. Bacon of Verulam says, that as soon as a science is begun to be treated according to systems, only little is generally achieved.

Also on the physician, the system mania has its evil effects; it produces *self-sufficiency*. He sits in his own room and explains everything according to his own satisfaction and conviction; and believes everything correct for which he finds his own explanations. Note the language used by these physicians in their writings; how boldly they contradict, how positively they assert, how fearlessly they articulate, how imperiously nature is treated. This can never be the language of the experienced physician, who daily discovers errors in his ideas. The physician who is conscious of making mistakes, is liable to be more careful and so errs less frequently. He who thinks he can not err, is audacious and careless, easily makes mistakes and does much harm; and I think that the experience of modern times has proven this.

I have some fault to find with our modern systemizers. No one can understand the language they employ; so that it seems to me as if their entire productions abound only in new technical words, terms and modes of expressions. When I read such works I sometimes feel as if I were reading the "Annulus Platonis." If any one has anything new and important to say, he would surely like to have it understood. One can express much that is common and familiar in obscure language and thereby give himself the appearance of having written much that is important and new. Try to translate these writings into plain, intelligible German and you will find my remark verified.

In short, the time has not come to construct a system of medicine. All that we can do now is to gather material for the construction. But then, after centuries, he, who might try to erect such a structure, must be a man of extensive talent and consummate experience. (*Ibid.*, p. 3.)

With the beginning of Brown's system, Richter's relations toward his pupils changed. These considered themselves above their teacher and insolently looked down on him as well as all others who did not uphold

the prevailing system and use the new technical terms. It was indeed honorable in him that he remained true to his convictions and did not allow himself to be misled by the decreasing number of his listeners, but he deserves censure that he did not acquaint himself with it, so as to refute it scientifically. But Richter did not protest, except with irony or silence. The students soon noticed that the subjects on which he spoke had not been thoroughly investigated by him. Whether he would have been capable of scaring the crows and jays away and hindered the students in their epidemic of going over to Brown's system will be left undecided; he as one of Germany's most prominent teachers ought however to have made the attempt in the interests of science. The times during which this system flourished filled him with mistrust toward the entire English medicine. He found in the writings of the English mostly shallow knowledge and coarse empiricism, and perceived with regret that this English nonsense had turned the heads of many Germans. When the intoxication of this error had passed away, Richter's good judgment was appreciated and the students attended his lectures as heretofore.

As Richter's special surgical teachings will be discussed in subsequent chapters, we will now bid farewell to the man who was once prized as the father of German surgery and ophthalmology. We have sadly neglected him! Even if our reason places the name of August Gottleib Richter far below that of John Hunter, our hearts will beat for our countryman, the German surgeon, and forever honor his name!

(To be continued.)

ASSOCIATION NEWS.

AMERICAN MEDICAL ASSOCIATION.

Official Report of the General Sessions of the Forty-eighth Annual Meeting, held in Philadelphia, Pa., June 1, 2, 3 and 4, 1897.

(Concluded from page 1148.)

JUNE 4.—FOURTH GENERAL SESSION.

The Association met at 10 a. m., and was called to order by President SENN.

The minutes of the preceding session were read and approved, after which Dr. JOHN B. HAMILTON of Chicago, delivered the Address on State Medicine. He selected for his subject "Prevention of Tuberculosis." (See page 1110.)

Dr. HENRY D. HOLTON moved that a vote of thanks be extended to Dr. Hamilton for his very interesting and able address.

Seconded and carried.

The next thing in order was the report of the Committee on Nominations, which was read by Dr. E. E. Montgomery, at the request of the Chairman of the Committee, Dr. Walker, who had left the city.

REPORT OF THE COMMITTEE ON NOMINATIONS.

Mr. President and Members of the American Medical Association: Your Committee on Nominations beg leave to report that they have made the following nominations of officers for the ensuing year:

President—Dr. George M. Sternberg, Washington, D. C.

First Vice-president—Dr. Joseph M. Mathews, Louisville, Ky.

Second Vice-president—Dr. J. L. Thompson, Indianapolis, Ind.

Third Vice-president—Dr. F. H. Wiggin, New York, N. Y.

Fourth Vice-president—Dr. T. J. Happel, Trenton, Tenn.

Treasurer—Dr. Henry P. Newman, Chicago, Ill.

Assistant Secretary—Dr. W. A. Jayne, Denver, Colo.

Librarian—Dr. George W. Webster, Chicago, Ill.

Chairman Committee of Arrangements—Dr. J. W. Graham, Denver, Colo.

Board of Trustees—Dr. J. T. Priestley, Des Moines, Iowa; Dr. Joseph Eastman, Indianapolis, Ind.; Dr. Truman W. Miller, Chicago, Ill.

Judicial Council—Dr. D. W. Crouse, Waterloo, Iowa; Dr. T. D. Crothers, Hartford, Conn.; Dr. Wm. T. Bishop, Harrisburg, Pa.; Dr. R. C. Moore, Omaha, Neb.; Dr. G. B. Gillespie, Covington, Tenn.; Dr. C. H. Hughes, St. Louis, Mo.; Dr. Ida J. Hieberger, District of Columbia.

ANNUAL ORATIONS.

On General Medicine—Dr. J. H. Musser, Philadelphia, Pa.

On General Surgery—Dr. J. B. Murphy, Chicago, Ill.

On State Medicine—Dr. S. C. Busey, Washington, D. C.

Delegates to the International Medical Congress at Moscow: G. S. Mitchell, J. E. Hyndman, Charles Dennison, A. M. Miller, H. L. E. Johnson, George M. Sternberg, D. L. Huntington, A. Marcy, Sr., H. D. Holton, Thomas MacDavitt, I. N. Quimby, George R. Fowler, J. B. Murphy, T. Mortimer Lloyd and Gilbert I. Cullen.

On motion, the report was unanimously adopted.

Dr. C. A. L. REED—Relative to the list of delegates to the International Medical Congress at Moscow, I rise to make an inquiry at this time as to the expediency of designating delegates to the British Medical Association at its next meeting in Montreal. I understand, Mr. President, that an official communication has been promulgated from that organization that the medical profession of the United States is not expected or wanted at Montreal. Under those circumstances I do not believe it comports with our dignity as a body to designate or appoint delegates who desire to attend this meeting.

PRESIDENT SENN—For the information of Dr. Reed, the Chair desires to state that an official communication has reached him asking for the appointment of a delegate from this Association to the British Medical Association, and with your permission, I will appoint Dr. Henry D. Holton to represent the American Medical Association at Montreal.

Dr. BULKLEY read the following report from the Executive Committee:

REPORT OF THE EXECUTIVE COMMITTEE.

The proposal to restore the former policy of the Association in favor of offering annually to members a gold medal for meritorious scientific work, having already been approved by the Association and recommitted for elaboration of details, the Executive Committee respectfully recommends:

1. That the design of the medal shall contain the seal of the United States, or a seal of the Association to be hereafter designed, on one side and an Æsculapian staff on the other, together with the name of the recipient of the medal and suitable inscriptions.

2. That the commercial value of the medal shall not exceed $50.

3. That a standing committee on Prize Medals consisting of three members of the Association, shall be elected by the Executive Committee as follows: One for one year, one for two years, and one for three years, and thereafter one be elected yearly to hold office until, in either case, the successor has been duly elected. In no case shall a member of the Executive Committee hold a place on the Committee on Prize Medals.

4. That competing essays shall be typewritten or printed and shall bear no mark revealing their authorship; but instead of the name of the author there shall appear on each essay a motto, and accompanying each essay shall be a sealed envelope containing the name, address and motto of the author and bearing on its outer surface the motto of identification. No envelope is to be opened by the committee until a decision has been reached as to the most deserving essay, and the other essays have been returned to their respective owners. The committee shall have authority to reject and return all essays in case none have been found worthy of the Association medal. Competing essays must be in the hands of the committee not later than March 1 of each year.

5. The committee shall report to the Association at the last general session of each meeting and the medal shall be publicly awarded by the President with suitable ceremony.

It was moved and seconded that the report be adopted.

Dr. WILLIAM T. BISHOP—While I think it is all right to accept the report of the committee, still it ought to be amended. I do not think it comports with the dignity of this Association, inasmuch as we do not know what the medal would indicate, and I think $50 is ridiculous. I would therefore move, as an amendment, that $100 be substituted instead of $50.

Seconded by Dr. QUIMBY and carried.

Dr. BULKLEY then read the resolutions regarding railroad transportation previously introduced by Drs. Happel and Powell, which were referred to the Executive Committee, saying that the Executive Committee had approved them.

Dr. WILLIAM H. DALY moved the adoption of the resolutions. Seconded.

Dr. W. T. BISHOP—I must object to the passage of these resolutions. I hardly think we are prepared to turn the Association over to the control of the railroads. It is not the proper thing. I think the committee of three to be appointed will cover everything that is necessary as regards the coming meeting, and that we need not wait until 1899. It is too far off. The best thing to do is to simply drop the matter. The question is entirely one of business methods, and I hardly think we can hardly accomplish any good. I think it puts us in a very unpleasant position.

Dr. I. N. QUIMBY—We should not be in too much hurry in deciding this question. I do not think Dr. Bishop caught the animus of these resolutions. I think they are excellent. They do not in any way, as far as I can see, conflict with the dignity of the Association, nor do they delegate any power to the railroads. The gentleman who introduced the resolutions merely wants to put the railroads on their mettle in relation to the place of meeting. For instance, if we are going to have a meeting in New York city, the railroads running into this city would be asked by the committee in charge as to the rates they would offer to our members, whether they will or will not give us half rates. This leaves the matter with the place of meeting. I hope every member will vote for the adoption of these resolutions. They are in the right direction.

Dr. COULBOURN of Alabama—Mr. President: I believe I have a right to speak on this subject. It was myself who made the great commotion regarding railroad rates for this Association at a previous session. The best thing in the world to build up the Association is to secure railroad rates. We have been fighting and petitioning and passing resolutions, and what does it amount to? We have not been favored with the reduced rates that have been accorded to other assemblies. I came from Alabama and have been unable to avail myself of any advantages in this matter whatever. In discussing this question of railroad rates among my friends, I have met very, very few who are opposed to obtaining them. These resolutions outline the best plan whereby we can obtain reduced rates for 1899.

Dr. W. H. DALY—The opposition to these resolutions is made by men who came here on passes.

At this point there were cries of question! question!

The President then put the motion to adopt and the resolutions as approved by the Executive Committee were unanimously passed.

The Secretary read a preamble and resolution from the Section on Ophthalmology regarding ophthalmia neonatorum, and on motion of Dr. QUIMBY, the resolution was adopted.

Dr. BULKLEY read the following report of the Executive Committee:

Notice of amendment: The Executive Committee, in response to a request from the Section on Dental and Oral Surgery, recommend that the name of the Section be changed to that of "Section of Stomatology."

The Executive Committee reports as follows its election of officers: Chairman, Dr. William E. Quine of Chicago; Vice-chairman, Dr. Edward Jackson of Philadelphia; Secretary, Dr. L. Duncan Bulkley of New York.

Additional members of Executive Council: Dr. C. A. Wheaton, St. Paul, Minn., and Dr. H. Bert Ellis, Los Angeles, Cal.

Dr. JOHN B. ROBERTS of Philadelphia—I desire to offer the following resolution:

Resolved, That 3,000 copies of the act of incorporation, as mentioned by the Trustees in their report, and the by-laws as at present in force, be printed for the use of the members.

Seconded by Dr. QUIMBY, who said: "I think the constitution and by-laws ought to be printed together, as it will take very little more money to do this. I therefore move, as an amendment, that the by-laws and constitution be printed with the Act of Incorporation. Seconded.

Dr. ROBERTS—I accept the amendment.

Dr. WILLIAM T. BISHOP—As a further amendment, I would suggest that we include the Code of Ethics.

Dr. ROBERTS—I have no objection to that.

Dr. L. D. BULKLEY—Mr. President: I rise to a question of privilege. Is this not new business, and ought it not to pass through the hands of the Executive Committee before being considered here? "All new business shall be referred to the Executive Committee without discussion." This is one of the by-laws under which we are working, and I would like to hear from Dr. Davis on this point.

Dr. N. S. DAVIS—We have adopted a by-law which requires that all propositions for appropriation of money shall first go to the Trustees of the JOURNAL and receive their approval. While this is not directly an appropriation of money, it practically amounts to it, and if we are working under our by-laws it should first go to the Board of Trustees of the JOURNAL for their sanction. The reason for the adoption of such a by-law was that there must be some guard against the appropriation of money.

Regarding the other question as to whether all new business should first go before the Executive Committee or Business Committee, I think it is correct. I think it hits both ways.

Dr. TANNEYHILL moved that the matter be referred to the Board of Trustees with authority to act. Seconded.

Dr. DALY then offered a substitute, that the Board of Trustees be requested to carry this matter out. Seconded.

Dr. TANNEYHILL accepted the substitute.

Dr. H. A. HARE—I would ask, before we proceed to direct the Board of Trustees to make a large expenditure of money, whether it would not be wise to consider if we have money to spend in this way. To print and issue 3,000 circulars or pamphlets will cost a good deal, and as Dr. Davis has said, the object of having a by-law on this point is to refer such matters to the Board of Trustees in order to protect the Association from voting funds which it does not possess.

Dr. W. H. DALY—I do not suppose the whole thing will cost more than $200, both for printing and sending them out. Personally, I am willing to leave this matter to the discretion of the Board of Trustees.

Dr. I. N. QUIMBY—Everybody knows that the Board of Trustees are men of good sense, and if we have not got the money to spend they will not order this work done.

Dr. JAMES F. HIBBERD—Why not place the matter in the hands of the Board of Trustees and let them act as they think best.

Dr. N. S. DAVIS—If you want to accomplish this object why not pass a resolution requesting the Board of Trustees and the JOURNAL to publish the Constitution, the charter and the by-laws in the JOURNAL, and then it will go to every member of the Association. (Applause.)

The President then put the substitute, as offered by Dr. Daly, which was carried.

Dr. H. BERT ELLIS gave notice that at the next meeting of the Association in Denver he would offer the following amendment to the constitution and by-laws:

ARTICLE IX. Conditions for further representation. "Any State or local medical society, or other organized institution whose rules, regulations and code of ethics agree in principle with those of this Association may be entitled to representation on the advice or agreement of the Judicial Council."

Dr. WM. BAILEY of Louisville—I wish to offer a short resolution.

Resolved, That a marked copy of the JOURNAL containing the address of Dr. W. W. Keen be sent to each member of the House and Senate of the United States. Seconded.

In this connection I wish to say that the senator from my State recently elected as the successor of Joe Blackburn is the only regular physician in the Senate of the United States, as I understand it, and one who is opposed to the passage of the Anti-vivisection Bill, and he being a representative of our profession in the Senate, I shall bear him testimony that this Association desires him in the interest of humanity to fairly represent his profession.

THE PRESIDENT—Would it not be well to refer it to the Board of Trustees?

Dr. H. L. E. JOHNSON of Washington—I am afraid that if a marked copy of the JOURNAL is sent to the individual members of the House and Senate it will not be read, and like most other things that are sent to Senators and Representatives, it will be thrown into the waste basket.

Dr. ——— of Pennsylvania—I do not think there is any necessity of sending a whole copy of the JOURNAL containing Professor Keen's address, but think it better to send the senators and representatives a reprint from the JOURNAL copy of the address. I agree with the last speaker that if this course is not pursued, and a copy of the JOURNAL is sent them, it will find its way into the waste basket. I would therefore offer that as an amendment. Seconded.

Dr. BAILEY accepted the amendment.

Dr. WILLS of California—I think it a great deal better to extract from Professor Keen's address his reference and remarks on the Anti-vivisection Bill and have it sent to the senators and representatives in as brief a form as possible. I think that it will be read if this is done.

Dr. TANNEYHILL—I think the resolution offered by me yesterday covers the whole ground in regard to anti-vivisection, and I move that this question be laid upon the table.

Seconded and carried.

Dr. JAMES T. COULBOURN—I move that the Secretary be requested to ask the railroads for the Denver meeting to extend our railroad certificates for at least ten days. My rea-

son for making this motion is this: I asked our passenger agent why we were not granted more time, and he informed me that we could have it if we had asked for it. The Secretary says he positively asked for an extension of time, but that they would not give it to him.

Seconded by Dr. Daly.

Dr. LISTON H. MONTGOMERY of Chicago—I move to amend by making it thirty days.

The motion as amended was seconded and carried.

Dr. L. D. BULKLEY gave notice that he would move an amendment as follows:

"That all new business shall be introduced not later than the third day of the General Session."

Seconded by Dr. Daly.

The Secretary read the following:

Resolved, That a committee of three be appointed to coöperate with the Committee of Arrangements to secure the best possible railroad rates for the Denver meeting.

On motion the resolution was adopted.

This Committee consists of Dr. H. L. E. Johnson, District of Columbia; Dr. Chas. A. L. Reed, Ohio, and Dr. Henry D. Holton, of Vermont.

The following are additional delegates to the International Medical Congress: Dr. J. Henry Woods of Brookline, Mass.; Dr. John L. Hildreth and Dr. E. Stevens of Cambridge, Mass.; Dr. F. C. Valentine, New York, N. Y.; Dr. E. S. Talbot, Chicago, Ill.; Dr. W. P. A. Bonwill, Philadelphia, Pa.; Dr. Nicholas Senn, Chicago, Ill., and Dr. J. D. Thomas of Pennsylvania.

The following are the officers of Sections, as handed to the Secretary:

Section on Ophthalmology: Chairman, Dr. Harold Gifford, Omaha, Neb; Secretary, Dr. Robert Randolph, Baltimore, Md.

Section on Physiology and Dietetics: Chairman, Dr. Randall Hunt, Louisiana; Secretary, Dr. A. H. Tuttle, Massachusetts. Executive Committee: New member, Dr. A. P. Clarke, Cambridge, Mass.

Section on Dental and Oral Surgery: Chairman, Dr. G. V. I. Brown, Duluth, Minn.; Secretary, Dr. Eugene S. Talbot, Chicago. On the Executive Committee, Dr. J. L. Williams, Boston.

Section on State Medicine: Chairman, Dr. I. N. Quimby, Jersey City, N. J.; Secretary, Dr. Arthur R. Reynolds, Chicago, Ill. Executive Committee: Drs. Liston H. Montgomery, Chicago; C. H. Shepard, Brooklyn, N. Y.; and Elmer Lee, New York.

Section on Obstetrics and Diseases of Women: Chairman, Dr. Joseph Price, Philadelphia; Secretary, Dr. C. Lester Hall, Kansas City, Mo.

Dr. JAMES T. COULBOURN—I would ask whether a vote of thanks has been offered to the local profession and the citizens of Philadelphia for entertaining us, also to the press.

THE PRESIDENT—There has not.

Dr. COULBOURN—I move that a vote of thanks be extended to the local medical societies of this city, to the citizens of Philadelphia, to the press, and to all others who have been instrumental in entertaining us and making our visit a very enjoyable one. Seconded.

Dr. I. N. QUIMBY—I would suggest that Lea Bros. & Co. be also included in the vote of thanks, as we were admirably entertained by them.

Dr. I. N. LOVE—Mr. President: I would suggest that the Secretary be instructed to carefully look over the list of entertainments we have received and the various courtesies extended to us and include them specifically in one resolution.

Dr. COULBOURN—I will accept that as an amendment.

Dr. LOVE—Speaking to the resolution, I know that I voice the sentiments of every man present in favor of its adoption. because never in the history of the Association have we had a better meeting from every standpoint. The Sectional meetings have been well attended and the entertainments have been admirable. In short, we have had a combination of science and sociability, and I do not believe there is a place anywhere on earth where there is more an atmosphere of sentiment and of science than in this City of Brotherly Love. We have all had manifestations of it this week. (Applause.)

Dr. DALY—We know that the Secretary is a very busy man, and I hope that Dr. Love will write these resolutions as he wields a facile pen. I will heartily second them.

The Secretary subsequently submitted the following resolution:

Resolved, That we most heartily thank the Committee of Arrangements, with Dr. H. A. Hare, their Chairman, for the magnificent manner in which they provided for the comfort and pleasure of the members; the University of Pennsylvania, the Jefferson Medical College, the Medico-Chirurgical College, the Women's Medical College and the Polyclinic for the excellent entertainments and the provision for clinical instruction which each offered in the greatest abundance; the Philadelphia County Medical Society, the Philadelphia Medical Club, the Howard Hospital, the firms of J. B. Lippincott Co. and Lea Brothers Co., Dr. John V. Shoemaker and wife, Provost C. C. Harrison and wife, and especially the Ladies' Entertainment Committee for the charming and highly enjoyable receptions and the ample opportunities for pleasure and profit not only to the members, but also the ladies who accompanied them. Especially do we desire to return our thanks to the business men, the hotel proprietors and the Atlantic City Medical Society, with particular mention of Dr. P. Marvel, the Chairman of the Committee, for a most wonderful opportunity to visit under the best auspices that City by the Sea, and to learn for ourselves its excellent position to give health and recreation to the invalid and the weary business man.

Dr. N. S. DAVIS—I am not quite willing to let this occasion pass without a word. The first convention I went to, to help form the Association was by the old stage coach, and it took longer to go over the hills of Pennsylvania, in and around the corners of it, to get from the village of Binghamton and the Susquehanna and the Chenango Rivers to New York City than it does to go from Chicago to San Francisco. I mention this to show you that the world has progressed. I have followed the meetings of the Association with the utmost interest and with the greatest possible pleasure from the foot of Bunker Hill Monument to the Golden Gate, and from Minnesota to the Gulf of Mexico, round and round. These meetings and the meetings of our State Society have been my pleasure excursions; they have been the only vacations I have ever taken. (Applause.) They are vacations that bring me in touch with my brethren from every quarter, and enable us to stir each other up by thoughts, by contact mind with mind, man with man, and woman with man, if you please. (Applause.) It gives us an elevation, infuses a bouyancy that lifts us out of our ruts at home. When we return to our homes and resume our practice we do so with fresh vigor, with greater confidence. (Loud applause.)

At the conclusion of Dr. Davis' remarks, three hearty cheers were proposed and given to Dr. Davis and the American Medical Association.

The resolutions of thanks were then adopted unanimously by a rising vote.

Dr. Fowler of Brooklyn, moved that the action taken by the Section on Surgery and Anatomy, in the matter of the Senn Medal, be approved by the Association.

Seconded by Dr. Quimby.

Dr. BULKLEY—I am afraid that there will be some confusion with reference to awarding these gold medals, and before any action is taken I think the matter should be carefully considered. I therefore move that it be referred to the Executive Council and not be acted upon hastily here.

Seconded and carried.

Dr. F. W. MCRAE of Atlanta—In order to facilitate the work of the Association, it is the sense of this body that our general meetings hereafter should be held at 11 instead of 10 o'clock. And furthermore, that in the future entertainments shall be so arranged as not to interfere in any way with the general sessions or with the work of the Sections. No man appreciates more than I do the magnificent entertainments we have had here, and the success of this meeting in every particular. The Nominating Committee was informed by the Chairman of the Committee of Arrangements from Denver that Colorado and the City of Denver would lavish at least $10,000 on us next year for the purpose of entertainment. I would request that in the future the Association be entertained in the evenings, or after the meeting has adjourned, and not during the meetings of the Sections and general sessions. I make this as a motion. If some such resolution is not passed, we will sooner or later become a social rather than scientific body. Seconded.

Dr. I. N. QUIMBY—This matter is already fixed by the by-laws in reference to time, and therefore the resolution is out of order.

Dr. MCRAE—It is not an amendment to the constitution, nor does it conflict with the by-laws or the constitution. It is simply the sense of this meeting.

Dr. I. N. LOVE—This matter can be arranged by the officers of the Association communicating with the local Committee of Arrangements, and if the officers and secretaries do their duty, there need not be any expression from this body. Our Section work will not be interfered with. At this meeting the Sections have been crowded and have been magnificent successes. I appreciate the sentiment of my friend, Dr. McRae, and believe it is in the right line, but I do not think an expression in the form of a resolution is necessary.

Dr. W. H. DALY—I differ with Dr. Love relative to the work of some of the Sections. The sectional meetings have been interfered with, and it is a wonder to me how my friend, Dr. Bulkley has been able to do so much work on the Executive Committee. I must confess that I have neglected some of the work of the Sections in order to attend social matters.

Dr. I. N. QUIMBY—I move that the motion be laid on the table. Seconded and carried.

Dr. WILLS of California offered an amendment to Article IV of the By-laws to take effect at the Denver meeting. (Not handed in.)

Dr. BENJAMIN LEE of Philadelphia extended a cordial invitation to the members of the Association to be present at the twenty-fifth anniversary meeting of the American Public Health Association, to be held in Philadelphia October 26 to 29, 1897.

President SENN—One of the pleasant duties of your retiring President on this occasion is to introduce your President-elect. The honor has been conferred upon a man worthy to occupy the highest position in the gift of the American profession—Surgeon-General STERNBERG, better known as Dr. Sternberg. He has not only been a very able and faithful public officer, but for a long time has devoted his time and attention to scientific investigation. His name is familiar wherever medicine is taught and practiced. I have great pleasure in introducing to you my successor, Dr. GEORGE M. STERNBERG. (Applause.)

Dr. STERNBERG was very cordially received. He spoke as follows:

Mr. President and Fellow Members of the American Medical Association:—I assure you I feel very deeply the honor you have conferred upon me. I have a high appreciation of this honor. I had not anticipated that I should arrive at any such distinction at this time, and it is especially pleasant to me to have been elected your President at this Jubilee meeting, where the profession is so well represented, and I feel and believe that there are some here today who will be present at the centennial celebration of the American Medical Association. Those gentlemen who are young enough to live to that time will, I trust, appear upon the platform and tell the American physicians of that day what they saw in Philadelphia fifty years before; that they had seen Dr. Davis, the founder of the Association, on this platform and had heard his voice ringing through this hall in a most eloquent address.

In speaking now of our reception by the city of Philadelphia, I feel that I am rather at a disadvantage at this moment. I can not add to what has been said by Dr. Love and Dr. Davis as to our magnificent reception here. We all feel that it has been the most successful meeting in the history of the Association, and it may be fifty years before there is any thing that will surpass it. Certainly nothing has been left undone that could possibly have been done to conduce to the interest and success of this Jubilee meeting.

In acknowledging the honor that you have done me there is one thought that comes to me which makes me feel a little bit uncomfortable, and that is that next year I shall have to prepare a Presidential Address, and when I consider the ground that has been so ably covered by Dr. Senn regarding the history of the Association, when I remember what Dr. Davis has told you about its early organization, and what Drs. Hamilton and Keen have told us regarding preventive medicine and surgery, I feel that there is very little left for me except to mount my hobby, and most of you know just as much about that as I do now. However, I shall leave that question for future consideration. Thanking you for your kindness, I hope to meet you all in Denver. (Applause).

Dr. LISTON H. MONTGOMERY—I think there has been one matter overlooked, and that is the report of the special committee regarding the Department of Public Health. I understand that our efficient Chairman, Dr. Wingate, is ready to make this report.

Dr. U. O. B. WINGATE of Milwaukee, then read the report of the Special Committee on the Department of Public Health, as follows:

REPORT OF THE SPECIAL COMMITTEE ON THE DEPARTMENT OF PUBLIC HEALTH.

Mr. President and Members of the Association:

At the last meeting of the Association, held at Atlanta, Ga., your Committee on the Department of Public Health, which was appointed in 1891, with the object in view of securing the passage of an Act of Congress creating a National Department of Public Health with a Secretary of Public Health in the Cabinet of the President of the United States, made a report of progress through its Chairman, the late and lamented Dr. Jerome Cochran of Alabama. That report suggested that it was impossible to attempt to secure the passage of an act creating a cabinet officer, and recommended the drafting of a Bill in which the powers of the Marine Hospital Service, which was already a Department of Public Health with important public health functions under the existing laws be enlarged, and that such a department should be so created as to require coöperation with the various State and Territorial Boards of Health; that report was accepted and its recommendations adopted, and in addition the Chairman was authorized to add to the committee by appointing an additional member from each State and Territory.

Your Chairman was appointed by the President of the Association to succeed the late Dr. Jerome Cochran in October last, and in looking over the field found that it was impossible to get either the 54th Congress, or the special session thereof, to take any action on such a measure, so he has appointed the additional members of the committee, a list of which may be found published in the JOURNAL for Jan. 16, 1897, and which is appended herewith, and has drafted a Bill which is presented herewith. Your committee recommends the continuance of the committee with power to have the aforesaid named bill amended to meet requirements, but not to change the general purpose thereof, and to introduce the same into Congress at its discretion, and that the members of the Association be requested to do in their power for its passage.

Your committee desires to report that out of the $400 appropriated for the use of the committee, $305 remains unexpended, and that it is possibe that more than that sum be required to aid in the attempt to get the measure passed.

Respectfully submitted,

U. O. B. WINGATE, Chairman.
LISTON H. MONTGOMERY,
WM. BAILEY,
CHARLES DENISON,
H. L. E. JOHNSON,
W. B. ATKINSON. } Com.

MEMBERS OF COMMITTEE ON NATIONAL LEGISLATION, AMERICAN MEDICAL ASSOCIATION.

Saunders, W. H., Alabama.	Jones, Paul T., Mississippi.
Jelks, Jas. T., Arkansas.	Lewis, E. R., Missouri.
Ruggles, C. A., California.	Mitchell, A. H., Montana.
Denison, Chas., Colorado.	Crunmer, B. F., Nebraska.
Crothers, T. D., Connecticut.	Watson, I. A., New Hampshire.
Wear, I. N., Dakota.	Quimby, I. N., New Jersey.
Bishop, L. A., Delaware.	Atkins, F. H., New Mexico.
Johnson, H. L. E., Dist. of Columbia.	Ferguson, E. D., New York.
Porter, J. Y., Florida.	Fuller, F. T., North Carolina.
Holt, Wm. F., Georgia.	Culbertson, J. C., Ohio.
Watkins, W. W., Idaho.	Dodson, O. M., Oregon.
Davis, N. S., Illinois.	Atkinson, W. B., Pennsylvania.
Montgomery, L. H., Illinois.	French, Chas. H., Rhode Island.
Hibberd, J. F., Indiana.	Croft, T. J., South Carolina.
Priestley, Jas. T., Iowa.	Lindsley, J. B., Tennessee.
Taylor, N. J., Kansas.	Barker, W. L., Texas.
Bailey, Wm., Kentucky.	Clift, Frederic, Utah.
Formento, F., Louisiana.	Holton, H. D., Vermont.
Garcelon, A., Maine.	McGuire, Hunter, Virginia.
Rohe, G. H., Maryland.	Eagleson, J. B., Washington.
Walcott, H. P., Massachusetts.	Cook, J. R., West Virginia.
Maclean, D., Michigan.	Wingate, U. O. B., Wisconsin.
Hewitt, C. N., Minnesota.	Stuver, E., Wyoming.

[For full text of Public Health Bill see next page.]

It was moved that the report be received and the Committee continued. Seconded.

Dr. HOLTON—I notice from the report of the Committee that a portion of the fund appropriated for their expenditures has been expended, and I believe the report states that possibly a little more money may be required. In view of this, I move that the Board of Trustees be authorized to allow such an additional sum as in their discretion they may deem wise.

Seconded and carried.

Dr. I. N. LOVE—I desire to make the motion, that in future all committees having reports of public interest, and particularly matters pertaining to legislation, be instructed to make their reports on the second day at the General Session. It is unnecessary for me to say that important legislative matters should not be presented here when there is a paltry few to consider them.

Seconded and carried.

There being no further business to come before the Association, President SENN said: I thank you for the distinguished honor conferred upon me in electing me your President last year. I also wish to thank you for the uniform courtesy extended to me. I congratulate you on the success of this meeting, which has been characterized by harmony of action and by the good work accomplished. I am now ready to entertain a motion to adjourn.

On motion, the ASSOCIATION then adjourned.

A BILL to Establish a Department of Public Health and to Define its Duties.

Be it Enacted by the Senate and House of Representatives of the United States of America in Congress assembled:

SECTION 1. That there shall be established a Department of Public Health, the duties of which shall be to collect and diffuse information upon matters affecting the public health, including statistics of sickness and mortality in the several States and Territories; the investigation by experimental and other methods of the causes and means of prevention of disease; the collection of information with regard to the prevalence of infectious, contagious and epidemic diseases both in this and other countries; also the causative and curative influence of climate upon the same; the publication of the information thus obtained in a weekly bulletin; the preparation of rules and regulations for securing the best sanitary condition of vessels from foreign ports, and for prevention of the introduction of infectious diseases into the United States, and their spread from one State into another, which rules, when approved by the President of the United States, shall, in so far as they are consistent with the existing laws, be adopted and enforced as quarantine regulations at the various ports of entry in the United States, and so far as applicable to interstate commerce to prevent the spread of disease from one State or Territory into another or the District of Columbia, be, and become additional regulations thereof; the advising and informing the several departments of the government on such questions as may be submitted by them to it, or whenever in the opinion of the Department such advice and information may tend to the preservation and improvement of the public health.

A special report of the said Department of Public Health, relative to such action as will most effectually protect and promote the health of the people of the United States may at any time be required by the President of the United States.

SEC. 2. That the Department of Public Health shall be under the control and management of a Commissioner of Public Health; said Commissioner of Public Health shall be appointed by the President of the United States, by and with the advice and consent of the Senate, and his term of office shall be six years; he shall be a regularly educated physician holding a diploma conferred upon him by a legally incorporated medical college in the United States; he shall have had at least ten years' experience in the practice of medicine, and shall be learned in sanitary science, and shall hold a membership in one or more reputable sanitary or medical associations in the United States.

He shall be entitled to a salary of $6,000 per annum, and his necessary traveling expenses.

That the Commissioner of Public Health shall semi-annually on the first Tuesdays of April and October of each and every year, and at such other times as he may designate, call to meet in the city of Washington, D. C., an advisory council to be composed of the secretary or executive officer of each State and Territorial board of health, and one officer learned in the law, detailed by the Attorney-General of the United States from the Department of Justice; and that the necessary traveling expenses of the said advisory council incident to their attendance on the meeting of the said council shall be paid on vouchers to be furnished by the Secretary of the Treasury, said meetings not to include more than six days at each session, unless a longer continuance shall be authorized by the President of the United States.

That the Commissioner of Public Health may appoint an Assistant Commissioner of Public Health, who shall be a physician in good and regular standing in the medical profession, and skilled in sanitary science, and fix his salary at not to exceed $3,500 per annum and all actual and necessary traveling expenses incurred in the performance of his duties as Assistant Commissioner in said Department. All officers and persons in the service of the United States, detailed to perform any duty under the provisions of this act, or any existing act, of the Congress of the United States providing for quarantine against diseases, or to prevent diseases from spreading within the United States, shall not receive any additional compensation except for actual and necessary expenses incurred in the performance of such duties, such expenses to be approved by the Commissioner of Public Health or his assistant, and to be paid on vouchers provided by the Department of the Treasury.

It shall be the duty of the Commissioner of Public Health to preside at all meetings of the said advisory council, and in case of his absence on account of illness or any other unavoidable cause, it shall be the duty of the Assistant Commissioner of the Department so to preside.

SEC. 3. That the Department of Public Health hereby created shall succeed to all the powers and duties now and heretofore conferred upon the Marine-Hospital Service, or any officer thereof, by any law of Congress, except as hereinafter provided, and shall occupy the building now occupied by the Marine-Hospital Service for its offices, and shall have under its exclusive control and management all offices, officers, laboratories, appurtenances and property of whatever name and nature, which are lawfully in possession of the said Marine-Hospital Service at the time of the passage of this act, but it is hereby provided that there shall be in said department a bureau to be known as "The Bureau of the Marine-Hospital Service," which shall be under the exclusive control of the Commissioner of Public Health, and all laws governing the appointment to official positions in said Marine-Hospital Service, and to promotions in said service, shall continue in full effect, and all funds now or hereafter appropriated for the Marine-Hospital Service by Congress shall continue to be disbursed under the supervision of the Commissioner of Public Health by the direction of the Secretary of the Treasury until otherwise provided by law, it being the intent and purpose of this act to continue the Marine-Hospital Service and to confer all duties relating to quarantine and the public health upon the department hereby created.

SEC. 4. That whenever any department of government, or the executive of any state or territory, or the Commissioners of the District of Columbia, or the health authorities of any State, shall request information from the Department of Public Health in regard to any matter pertaining to the protection or promotion of the public health, said department shall promptly furnish such information as it may have on record, together with any necessary or pertinent advice; and whenever any information shall be received by the department which the interests of the public health require should be promptly communicated to any department of the government, or to any state officer, such information shall be forthwith furnished to the respective department or officer.

SEC. 5. That the department shall take such action, by adopting and enforcing such rules, and by correspondence or conference, as will tend most effectually to secure the coöperation of State, municipal, and local boards of health in establishing and maintaining an efficient and accurate system of notification of the existence and progress of contagious and infectious diseases, and of vital statistics in the United States, and said department shall also, by coöperation with the proper health authorities of foreign nationalities and municipalities, endeavor to extend to the United States a reliable system of international notification of the existence and progress of such diseases as cholera, yellow fever, typhus fever, smallpox, bubonic plague, or any other dangerous or contagious disease which may, in the judgment of the department, seem advisable to consider.

SEC. 6. That in sending notifications to, and receiving reports from, the different States or Territories in the United States, the department shall conduct all correspondence through the State and Territorial health authorities, and all information intended for local use received by the State or Territorial health authorities, shall by them be forwarded to the local boards of health, or health authorities, within their jurisdiction, and all reports and information received from local health authorities, and local boards of health, shall pass through the office of the State or Territorial health authorities to the said Department of Public Health.

SEC. 7. That the department shall, when in its judgment it may deem it necessary and proper, make such additional rules and regulations as are necessary to prevent the introduction of infectious and contagious diseases into the United States from foreign countries, or into one State or Territory, or the District of Columbia, from another State or Territory or the District of Columbia, and when said rules and regulations have been made they shall be promulgated by the said department subject to the approval of the advisory council, and the President of the United States, and enforced by the sanitary authorities of the States, Territorities, municipalities, and local boards of health, where the State, Territorial, municipal, or local health authorities will undertake to execute and enforce them, but if the State, Territory, municipal, or local health authorities shall fail or refuse to enforce such rules and regulations, the President of the United States shall execute and enforce the same, and shall adopt such measures as in his judgment shall be necessary to prevent the introduction or spread of such diseases, and may detail or appoint officers for that purpose.

SEC. 8. That it shall be the duty of said department to perform all the duties in respect to quarantine and quarantine regulations, which are provided for by this act, or by any existing act of the Congress of the United States, and all duties in regard to the prevention and spreading of diseases throughout the United States as provided for in this act, and to obtain

information of the sanitary condition of foreign ports and places from which contagious and infectious diseases are, or may be, imported into the United States, and to this end the consular officers of the United States at such ports and places as shall be designated by the Commissioner of Public Health, shall make weekly reports to the department of the sanitary condition of the ports and places at which they are respectively stationed, according to such forms as the Department of Public Health shall prescribe; and the Commissioner of Public Health shall also obtain, through all sources accessible, including State and Territorial sanitary authorities throughout the United States, weekly reports of the sanitary condition of ports and places within the United States, and shall prepare, publish, and transmit to collectors of customs, and to State and Territorial boards of health, and through them to municipal health officers, and other sanitarians, weekly abstracts of the consular sanitary reports, and other pertinent information received by him, and shall also, as far as he may be able, by means of voluntary coöperation of State and Territorial authorities, and through them municipal authorities, public associations, and private persons, procure information relating to the climatic and other conditions affecting the public health.

SEC. 9. That it shall be unlawful for any merchant ship or other vessel, from any foreign port or place, to enter any port of the United States, except in accordance with the provisions of this act, and with such rules and regulations of State, Territorial and municipal health authorities as may be made in pursuance of, or consistent with, this act; and any such vessel which shall enter, or attempt to enter, a port of the United States in violation thereof, shall, upon conviction of the Master thereof, forfeit to the United States a sum to be awarded in the discretion of the court, not exceeding $5,000, which shall be a lien upon said vessel to be recovered by proceedings in the proper district court in the United States. In all such proceedings the United States District Attorney for such district shall appear on behalf of the United States, and such proceedings shall be conducted in accordance with the rules and laws governing cases of seizure of vessels for violation of the revenue laws of the United States.

That any vessel, at any foreign port, clearing for any port or place in the United States, shall be required to obtain from the consul, vice-consul, or other consular officer of the United States at the port of departure, or from the medical officer, where such officer has been detailed by the President of the United States for that purpose, a bill of health in duplicate, in the form prescribed by the Department of Public Health, setting forth the sanitary history and condition of said vessel, and that it has in all respects complied with the rules and regulations in such cases prescribed for securing the best sanitary condition of the said vessel, its cargo, passengers and crew; and said consular, or medical, officer is required before granting such duplicate bill of health, to be satisfied that the matters and things therein stated are true; and for his services in that behalf he shall be entitled to demand and receive such fees as shall by lawful regulations be allowed, to be accounted for as is required in other cases.

The President of the United States in his discretion is hereby authorized to detail any medical officer of the government to serve in the office of the consul at any foreign port for the purpose of furnishiug information, and making the inspection, and giving the bills of health hereinbefore mentioned. Any vessel clearing and sailing from any such port, without such bill of health, and entering any port of the United States shall, upon conviction of the Master thereof, forfeit to the United States not more than $5,000, the amount to be determined by the court, which shall be a lien on the same to be recovered by proceedings in the proper district court of the United States. In all such proceedings the United States District attorney for such district shall appear on behalf of the United States; and such proceedings shall be conducted in accordance with the rules and laws governing cases of seizure of vessels for violation of the revenue laws of the United States.

SEC. 10.—That the Commissioner of Public Health shall from time to time, issue to the consular officers of the United States and to the medical officers serving at any foreign port, and otherwise make publicly known, the rules and regulations made by him, to be used and complied with by vessels in foreign ports, for securing the best sanitary condition of such vessels, their cargoes. passengers and crew, before their departure for any port in the United States, and in the course of the voyage; and all such other rules and regulations as shall be observed in the inspection of the same on the arrival thereof at any quarantine station at the port of destination, and for the disinfection and isolation of the same, and the treatment of the cargo and persons on board, so as to prevent the introduction of cholera. yellow fever, leprosy, bubonic plague, smallpox, or other contagious or infectious diseases; and it shall be unlawful for any vessel to enter said port to discharge its cargo or land its passengers except upon a certificate of the health officer at such quarantine station, certifying that said rules and regulations have in all respects been observed and complied with, as well on his part as on the part of the said vessel and its master, in respect to the same and to its cargo, passengers and crew; and the master of every such vessel shall produce and deliver to the collector of customs at said port of entry, together with the other papers of the vessel, the said bills of health required to be obtained at the port of departure, and the certificate herein required to be obtained from the health officer at the port of entry; and that the bills of health herein prescribed shall be considered as part of the ship's papers, and when duly certified to by the proper consular officer, or other officer of the United States, over his official signature and seal, shall be accepted as evidence of the statements therein contained in any court of the United States.

SEC. 11.—That the Commissioner of Public Health shall, and at such times as he may deem necessary, examine the quarantine regulations of all State and municipal boards of health, or detail an officer of the said department to make such examinations, and shall coöperate with and aid all State, municipal and local boards of health in the execution and enforcement of the rules and regulations made by the Department of Public Health under the provisions of this act, or any other act of the Congress of the United States providing for a quarantine against disease, and to prevent the introduction of contagious and infectious diseases into the United States from foreign countries, and into one State or Territory, or the District of Columbia, from another State or Territory, or the District of Columbia; and all rules and regulations made shall operate uniformly and in no manner discriminate against any port or place; and at such ports and places within the United States as have no quarantine regulations under State, Territorial or municipal authority, where such regulations are, in the opinion of the Commissioner of Public Health, necessary to prevent the introduction of contagious and infectious diseases into the United States from foreign countries, or into one State or Territory, or the District of Columbia, from another State or Territory, or the District of Columbia, and at such ports and places within the United States where quarantine regulations exist under the authority of the State, Territory, or municipality which, in the opinion of the Commissioner of Public Health, are not sufficient to prevent the introduction of such diseases into the United States, or into one State or Territory or the District of Columbia, from another State or Territory or the District of Columbia, the Commissioner of Public Health, if in his judgment it is necessary and proper, shall, with the advice and approval of the advisory council, make such additional rules and regulations as may be necessary to prevent the introduction of such diseases into the United States from foreign countries, or into one State or Territory, or the District of Columbia, from another State or Territory or the District of Columbia, and when said rules and regulations have been made and approved by the President of the United States, they shall be promulgated by the Commissioner of Public Health and enforced by the sanitary authorities of the State, Territories and municipalities, where the State, Territorial or municipal health authorities will undertake to execute and enforce them; but if the State, Territorial or municipal authorities shall fail or refuse to enforce said rules and regulations, the President of the United States shall empower the Commissioner of Public Health to execute and enforce the same and adopt such measures as in his judgment shall be necessary to prevent the introduction or spread of such diseases, and may detail or appoint officers for that purpose. The Commissioner of Public Health shall make such rules and regulations, with the advice and consent of the advisory council, and approved by the President of the United States, as are necessary to be observed by vessels at the port of departure and on the voyage, where such vessels sail from any foreign port or place in the United States, to secure the best sanitary condition of such vessel, her cargo, passengers and crew, which shall be published and communicated to, and enforced by, the consular officers of the United States. None of the penalties herein imposed shall attach to any vessel, or owner, or officer thereof, until a copy of this act, with the rules and regulations made in pursuance thereof, has been posted up in the office of the consul, or other consular officer of the United States, for ten days, in the port from which said vessel sailed: and the certificate of such consul, or consular officer, over his official signature, shall be competent evidence of such posting in any court of the United States.

SEC. 12.—That on the arrival of an infected vessel at any port not provided with proper facilities for treatment of the

same, the Commissioner of Public Health may remand said vessel, at its own expense, to the nearest National or other quarantine station, where accommodations and appliances are provided for the necessary disinfection and treatment of the vessel, passengers and cargo; and after treatment of any infected vessel at a National quarantine station, and after certificate shall have been given by the United States quarantine officer at such said station that the vessel, cargo and passengers are each and all free from infectious disease, or danger of conveying the same, said vessel shall be admitted to entry to any port of the United States named within the certificate. But at any ports where sufficient quarantine provision has been made by State, Territorial or local authorities, the Commissioner of Public Health may direct vessels bound for said ports, to undergo quarantine at such said State, Territorial or local station.

SEC. 13.—That whenever it shall be shown to the satisfaction of the President of the United States that by reason of the existence of cholera, yellow fever, or other infectious or contagious diseases in a foreign country, there is danger of the introduction of the same in the United States, and that notwithstanding the quarantine defense, this danger is so increased by the introduction of persons or property from such country that a suspension of the right to introduce the same is demanded in the interest of the public health, the President shall have power to prohibit, in whole or in part, the introduction of persons and property from such countries or places as he shall designate, and for such period of time as he may deem necessary.

SEC. 14.—That whenever the proper authorities of a State or Territory shall surrender to the United States the use of the buildings and disinfecting apparatus at a State quarantine station, the Commissioner of Public Health shall be authorized to receive them and to pay a reasonable compensation to the State or Territory for their use, if in his opinion they are necessary to the United States.

SEC. 15.—That whenever necessary there shall be purchased or erected, under the orders of the Commissioner of Public Health, with the approval of the Secretary of the Treasury, suitable warehouses with walls and enclosures, where merchandise may be unladen and deposited from any vessel which shall be subject to a quarantine or other restraint, pursuant to the health laws of any State, at such convenient places therein as the safety of the public revenue and the observance of such health laws may require.

SEC. 16. That whenever the cargo of a vessel is unladen at some other place than the port of entry or delivery under the foregoing provisions, all the articles of such cargo shall be deposited, at the risk of the parties concerned therein, in such public or other warehouses or enclosures, as the collector of customs shall designate, there to remain under the joint custody of such collector and of the owner or master, or other person having charge of such vessel, until the same are entirely unladen or discharged, and until the articles so deposited may be safely removed without contravening such health laws. And when such removal is allowed, the collector having charge of such articles may grant permits to the respective owners or consignees, their factors or agents, to receive all merchandise which has been entered, and the duties accruing upon which have been paid, upon the payment by them of a reasonable rate of storage, which shall be fixed by the Secretary of the Treasury for all public warehouses and enclosures.

SEC. 17.—That the master of any vessel employed in transporting passengers between the United States and Europe, is authorized to maintain good discipline, and such habits of cleanliness among the passengers as will tend to the preservation and promotion of health; and to that end he shall cause such regulations as he may adopt for this purpose to be posted up, before sailing, on board such vessel in a place accessible to such passengers, and shall keep the same so posted up during the voyage. Such master shall cause the apartments occupied by such passengers to be kept at all times in a clean, healthy state; and the owners of every such vessel so employed are required to construct the decks, and all parts of the apartments, so that they can be thoroughly cleansed; also to provide a safe, convenient privy or water-closet for the exclusive use of every one hundred passengers. The master shall also, when the weather is such that the passengers can not be mustered on deck with their bedding, and at such other times as he may deem necessary, cause the deck occupied by such passengers to be cleansed with chlorid of lime, or some other equally efficient disinfecting agent. And for each neglect or violation of any of the provisions of this section, the master and owner of any such vessel shall, upon conviction thereof, be severally liable to the United States in a penalty of one hundred dollars, to be recovered in any circuit or district court within the jurisdiction of which such vessel may arrive, or from which she is about to depart, or at any place where the owner or master may be found, or to imprisonment for a period of not less than thirty days, or by both fine and imprisonment, in the discretion of the court.

SEC. 18.—That whenever the evidence shall appear conclusive to the President of the United States that cholera, yellow fever, typhus fever, typhoid fever, smallpox, diphtheria or other plague, exists in any State or Territory, or in the District of Columbia, to such an extent that there is great danger of the spread of such disease into other States, Territories, or the District of Columbia, by means of vessels and vehicles engaged in the transportation of goods, passengers, and the United States mail, by land and water, or by persons traveling, on foot or otherwise, he is hereby authorized to call together the Commissioner of Public Health and advisory council to take such action as may be neceseary to prevent the spread of such disease from one State or Territory into another, or from any State or Territory into the District of Columbia, or from the District of Columbia into any State or Territory, and the Commissioner of Public Health shall make such rules and regulations, by and with the advice and consent of the advisory council, and the approval of the President of the United States, as may be necessary to meet the emergency, and all such rules and regulations shall have the force of law, and supersede all other rules, laws or regulations for the time being at the place designated, and any one violating any such rules and regulations shall, upon conviction thereof, be subject to arrest and imprisonment for a period of not less than thirty days. The Commissioner of Public Health may temporarily employ such inspectors and other persons as may be necessary to execute all rules and regulations adopted as aforesaid to stamp out and prevent the spread of such disease.

SEC. 19.—That the Commissioner of Public Health or any one appointed by him may, with the approval of the Secretary of the Treasury, select suitable localities for establishing stations on rivers and other lines of interstate commerce and travel by railroads, and may cause to be erected necessary temporary buildings for the disinfection of passengers, baggage, cargoes, vessels and vehicles, and may enforce such rules and regulations relating thereto as may have been, or may be, prescribed therefor.

SEC. 20.—That the Secretary of the Treasury is authorized whenever a conformity to such quarantines and health laws requires it, and in respect to vessels subject thereto, to prolong the terms limited for the entry of the same, and the report of entry of their cargoes, and to vary or dispense with any other regulations applicable to such reports or entries. No part of the cargo of any vessel shall, however, in any case be taken out or unladen therefrom otherwise than is allowed by law, or according to regulations and rules adopted and promulgated by the Commissioner of Public Health under the provisions of this act, or any existing act.

SEC. 21.—That the Commissioner of Public Health and the advisory council, created under this act, shall devise such means and methods as they may deem most effective to control and exterminate all domestic diseases transmitted by contact, such as phthisis pulmonalis or tuberculosis, diphtheria, scarlet fever, smallpox, leprosy and all diseases dangerous to the public health. That the said Department of Public Health may, under the direction of the Commissioner of Public Health, make investigations, both in the United States and, if necessary, in foreign countries, into the nature, origin and prevention of contagious, epidemic and other diseases, and the causes and conditions of particular outbreaks of disease in the United States, and in order that said experiments may be made, the Commissioner of Public Health shall, if necessary, enlarge the laboratories of the Marine Hospital Service, erect and maintain such other laboratories as may be necessary, and to equip said laboratories with the best appliances obtainable for investigation into the causes of disease and how to prevent and obliterate the same.

SEC. 22.—That the Commissioner of Public Health may engage the services of experts, not to exceed six in number, in such laboratories in the United States as are best adapted by location, equipment or special fitness, to aid the Department of Public Health in making investigations, the pay to be allowed such experts to be fixed by the Commissioner of Public Health. It shall also be the duty of the said department to investigate the best method for the disposal of sewage, the protection of public water supplies, to ascertain the best sanitary methods, to investigate all matters which relate to the public health, and to gather statistics relating to marriages, births, and deaths, and cause of death, and when the same can be done without prejudice to the public service, the President of the United States may detail officers from the several departments of the

government for temporary duty to act under the direction of said department, to carry out the provisions of this act, and all other acts of the Congress of the United States providing for a quarantine against disease and to prevent the spread of any disease within the United States.

SEC. 23.—That the Secretary of the Department of Agriculture, and the Commissioner of the Department of Labor shall respectively furnish for the use of the Department of Public Health such information as they shall from time to time gather upon the following and kindred subjects, viz.: 1. The investigation of foods; also drugs and wines, their standard purity and their adulteration. 2. The transmission of disease from animals to man and from man to animals, such as tuberculosis, glanders, etc. 3. The statistics of climate with relation to infectious and other diseases. 4. The statistics and conditions relating to consanguineous and other marriages liable to produce physically and mentally defective offspring; and any information leading to race improvement through better marriage selection than obtains at present. 5. The statistics relating to child labor and to confined and unhealthy occupations, etc.

SEC. 24.—That it shall be lawful for the Commissioner of Public Health, when in his judgment it may seem necessary to confer upon any municipal or local health officer, or health authority, through the State or Territorial authorities in which he may have jurisdiction, power also to enforce the provisions of this act and any rules and regulations made in pursuance thereof, and any person who shall knowingly disobey or violate any order, rule or regulation made pursuant to the authority herein conferred, shall, upon conviction thereof, be deemed guilty of a misdemeanor punishable by a fine of not less than $500 or by imprisonment for a period of not less than one year.

SEC. 25.—That the Commissioner of Public Health shall make an annual report of the operations of the Department to Congress with such recommendations as he may deem important to the public interest; and said report, if ordered to be printed by Congress, shall be done under the direction of the Commissioner of Public Health, and that all mail matter of whatever class relative to the Department of Public Health and its duties, and addressed to the Commissioner of Public Health and indorsed "Official Business, Department of Public Health," or mailed by said department, shall be transported free of postage; and if any person shall make use of such indorsement to avoid the payment of postage in his private letter, package or other matter in the mail, the person so offending shall, upon conviction thereof, be deemed guilty of a misdemeanor and be subject to the penalty prescribed by the existing law.

SEC. 26.—That the Commissioner of Public Health is authorized to appoint for duty not to exceed six sanitary inspectors, at a salary not to exceed one thousand eight hundred dollars per annum each, and their necessary actual traveling expenses; at least two of these inspectors shall be experts in quarantine matters, two shall be skilled bacteriologists, and one shall be an expert statistician. The Commissioner of Public Health is authorized to employ one chief clerk at a salary of one thousand eight hundred dollars; one clerk of class three at one thousand four hundred dollars; and one clerk of class two, at one thousand four hundred dollars; and four clerks at one thousand dollars each, one messenger at eight hundred dollars, one stenographer at eight hundred dollars, one watchman at six hundred dollars per anum.

SEC. 27.—That any officer, or person acting as an officer, or agent at any quarantine station, or other person employed to aid in preventing the spread of disease, who shall wilfully violate any quarantine laws of the United States, any of the provisions of this act, or any of the rules and regulations made and promulgated as provided for in this act, or any other act of the Congress of the United States providing for and regulating quarantine against disease, or to aid and prevent the spread of any disease within the United States, or any lawful order of his superior officer, or officers, shall be deemed guilty of a misdemeanor, and upon conviction thereof shall be punished by a fine of not more than five hundred dollars, or imprisonment for not more than one year or both, in the discretion of the court.

SEC. 28.—That when any common carrier or officer, agent, or employe of any common carrier, shall wilfully violate any of the quarantine laws of the United States, or the rules and regulations made and promulgated as provided for in this act, or any other act of the Congress of the United States regulating and maintaining a quarantine against disease, and to prevent the spread of disease within the United States, such common carrier, officer, agent, or employe shall be deemed guilty of a misdemeanor, and shall upon conviction thereof be punished by a fine of not more than five hundred dollars or imprisonment for not more than two years, or both, in the discretion of the court.

SEC. 29.—That any person who shall wilfully violate any rule or regulation made and promulgated by authority of this act, or any other act of the Congress of the United States, providing for a quarantine against disease, and to prevent the spread of any disease within the United States, shall be deemed guilty of a misdemeanor, and upon conviction thereof shall be punished by a fine of not more than five hundred dollars or imprisonment for not more than two years, or both, in the discretion of the court.

SEC. 30.—All convictions for the violation of any of the provisions of this act, or any other act of the Congress of the United States, providing for a quarantine against disease, and to prevent the spread of any disease within the United States, shall be tried in the district wherein the offense was committed, and it shall be the duty of the United States district attorney for such district to appear on behalf of the United States, and all trials and proceedings shall be conducted in accordance with the rules and laws governing criminal cases triable in the United States courts.

SEC. 31.—That all rules made and promulgated, adopted and published pursuant to the provision of an act entitled "An act granting additional quarantine powers and imposing additional duties upon the Marine Hospital Service," approved Feb. 15, 1893, shall remain in force until the same are annulled, changed, or modified, as provided for by this act, and other acts of Congress providing for quarantine against diseases, and the spread of any disease within the United States.

SEC. 32.—That all rules and regulations made and promulgated to enforce the provisions of this act, or any other act of the Congress of the United States, providing for a quarantine against disease, and to prevent the spread of any disease within the United States, shall be approved by the President of the United States, and when approved by him shall have all the force and effect of law.

SEC. 33.—That the Commissioner of Public Health shall annually submit to the Secretary of the Treasury, for transmission to Congress, estimates of the expense necessary to maintain properly the Department of Public Health for the ensuing year. That there shall be, and hereby is, appropriated out of the moneys in the Treasury and not otherwise appropriated, the sum of $75,000 for the purpose of this act. The sum of $1,000,000 already appropriated and known as an emergency fund to be expended by the President of the United States or the balance thereof not already expended, shall be a fund and held and expended at the discretion of the President of the United States in the execution of the provisions of this act.

SEC. 34.—Sec. 1, Chapter 19, Supplement to the Revised Statutes, Vol. 1, second edition, revised and continued (page 637) is hereby amended so as to read as follows:

Sec. 1. *Be it enacted, etc.*, That medical officers of the Marine Hospital Service of the United States shall hereafter be appointed by the President, by and with the advice and consent of the Senate, and no person shall be so appointed until after passing a satisfactory examination in the several branches of medicine, surgery and hygiene before a board of medical officers of said service. Said examination shall be conducted according to rules prepared by the Commissioner of Public Health and approved by the advisory council and the President.

SEC. 35.—Sec. 4,796 and 4,802, Revised Statutes of 1878, Chapter 66, laws of 1878, Supplement to Revised Statutes, Vol. 1, second edition, revised and continued: "An act to prevent the introduction of contagious or infectious diseases into the United States."

Paragraph 9, chapter 130, laws of 1875, same supplement: "An act making appropriations for sundry civil expenses of the Government for the fiscal year and for other purposes."

Sec. 7, chapter 156, laws of 1875, same supplement: "An act to promote economy and efficiency in the Marine Hospital Service."

Chapter 51, laws of 1890, same supplement: "An act to prevent the introduction of contagious diseases from one State to another, and for the punishment of certain offenses."

Chapter 300: An act amendatory to the aforesaid, passed August 18, 1894.

Chapter 114, Supplement of the Revised Statutes, Vol. 2, laws of 1893: "An act granting additional quarantine powers and imposing additional duties upon the Marine Hospital Service," and all other acts, or parts of acts, inconsistent herewith, or repugnant to the provisions of this act, are hereby repealed.

SEC. 36.—This act shall take effect sixty days after its passage, within which time the Commissioner and Assistant Commissioner may be appointed.

Let us have a Department of Public Health!

SOCIETY PROCEEDINGS.

Illinois State Medical Society.

Abstract of the Proceedings of the Forty-seventh annual meeting, held at East St. Louis, May 18, 19 and 20, 1897.

(*Continued from page 1152.*)

SECOND DAY—AFTERNOON SESSION.

NON-MALIGNANT STRICTURES OF THE RECTUM.

A paper on this subject was read by Dr. A. E. HALSTEAD of Chicago.

A non-malignant stricture of the rectum was defined as a pathologic condition in which there is a permanent and progressive narrowing of the rectal canal as the result of an alteration in the rectal wall, primarily depending upon a loss of tissue, from ulceration or from trauma, the immediate cause being a contraction of the inflammatory tissue that has been substituted for the normal mucous membrane and musculature of the rectum.

Syphilis was undoubtedly the most frequent cause of rectal stricture. Authorities, however, do not agree as to the percentage of cases that should be considered of syphilitic origin. Out of 99 cases of stricture, Allingham found 52 that he regarded as syphilitic. Eugene Frankel found in 7 out of 9 cases of rectal strictures evidences of syphilis. Kelsey in 76 non-malignant strictures found 17 that he regarded of venereal origin, these including strictures which followed gonorrheal or chancroidal ulcerations. In 70 cases of stricture tabulated by Cripps from the records of St. Bartholomew's Hospital, only 13 had a distinct syphilitic history or presented other signs of syphilis. Poelchen collected 222 cases, 96 or 43 per cent. of which were regarded as syphilitic.

Stricture of the rectum is far more common in the female than in the male sex. In 367 cases collected by Ball, 276 were women and 91 men, *i. e.*, a ratio of 3 to 1.

Treatment.—The various measures that have been advocated from time to time for the relief of cicatricial rectal stricture were classified as follows: 1, dilatation, *a*, gradual, *b*, rapid; 2, electrolysis; 3, internal proctotomy; 4, external proctotomy; 5, inguinal or lumbar anus; 6, plastic operations and anastomosis; 7, excision, *a*, perineal, *b*, sacral.

These various measures were then taken up and discussed at length.

The author closed his paper with a report of two cases of rectal stricture in which permanent cures were obtained by amputation of the strictured portion of the gut.

SYMPHYSIOTOMY

was the title of a paper read by Dr. FRANK B. EARLE of Chicago, in which he emphasized some of the most important points and gave a brief report of a case, the favorable outcome of which had led him more ardently than ever to support a procedure which he believes has a legitimate field in obstetrics.

Indications.—Division of the symphysis, for the purpose of increasing the pelvic diameter, has been proposed for, *a*, irreducible brow presentation, *b*, impactated occipito-posterior, and *c*, in face presentations with the chin posterior, when it was impossible either to flex the head or rotate the chin anteriorly, and where version was contra-indicated. It was most valuable where the disproportion between the head and pelvis was moderate, *i. e.*, in the flattened and generally contracted pelves. It might also be resorted to with advantage in extreme contraction, 7 cm., with death of the fetus, in order that embryotomy might be performed.

Situation.—It should not be performed with a conjugate vera of less than 2.6 inches, 6.5 cm., or above 3,5 inches, 9 cm. Neither should it be performed if the fetal heart tones indicate extreme exhaustion. It should be done as an operation of election and not after repeated ineffectual attempts to deliver by forceps or version. One of the chief reasons why the maternal and fetal mortality was high was because few of the disproportion cases were recognized prior to the onset of labor.

Technique.—The patient is prepared as for celiotomy, placed in the dorsal position with an assistant on each side. The first step should be the introduction into the bladder of a straight metallic catheter or sound, in order to push the urethra and bladder away from the part to be incised. The second step is to locate the symphysis by the depression above, and this could be materially aided by flexing and extending the limbs. It should not be forgotten that the symphysis is occasionally situated laterally.

After the symphysis is located an incision should be made, to extend from above the joint almost down to the clitoris, and the retro-pubic tissues pushed carefully away. Instead of then passing the probe-pointed bistoury, or the Galbiati-Harris knife posteriorly and dividing the entire pubic joint, as was originally proposed, only the minor pubic ligaments should be severed, from above backward and the sub-pubic ligament dissected and pushed downward, as fully described in the *American Journal of Obstetrics* in 1894. By this method the sub-pubic ligament could be separated from the arch sufficiently to permit the desired degree of separation and undue stretching of the fascia, through which pass important structures, is avoided. This is important, as the danger of laceration, hemorrhage and sepsis is greatly diminished. After the joint is severed and the ends protected by gauze, the question to be determined is whether the patient should be permitted to deliver herself or whether labor should be terminated. Both practices are in vogue, but preference is given to the latter. Except in hospital practice, symphysiotomy is not usually decided upon until after futile attempts at forceps or version have been made and the mother and child reduced to a state of threatened exhaustion. Under these conditions it would be dangerous to wait for spontaneous delivery and even when the operation is an elective one it would seem more rational to terminate labor by forceps or version, than to subject the patient to the prolonged dangers of shock and sepsis. During delivery by *any* method the hips must be firmly supported in order not to endanger the sacro-iliac ligaments. After the completion of the third stage there remain the closure of the incision and any lacerations that have occurred in the genital tract.

The chief dangers to be combatted are sepsis and hemorrhage. Regarding the former, it need only be mentioned that in the elective operation it is a preventable accident and should not, at this day, be classified as dangerous. In reference to hemorrhage, it should be stated that it is frequent, many times alarming, and occasionally a fatal accident. Enormous hemorrhage is reported by many distinguished operators, and nearly all agree as to the difficulty encountered in controlling it. By the Harris method the conditions responsible for it are largely, if not completely, obviated.

Cesarean section is preferred by some to symphysiotomy because of an easier and more rapid convalescence, as well as from the fact that the mortality to the mother is about the same and the infant mortality less. Under the improved Sänger method the maternal mortality in section is 5 to 10 per cent. and the infantile 5 to 6 per cent.

Embryotomy, when attempted through a narrow pelvis while the head is yet unengaged, is one of the most difficult of obstetric operations. The mortality is a little less than in section.

Having considered the dangers and advantages as compared to other operations designed to terminate obstructive labor, the author suggested the following points of interest:

1. Many children are today being saved that a decade ago would have been mutilated.

2. Many children are today delivered at term, alive aud capable of growth and development, who a few years since would have been prematurely delivered only to succumb during delivery or a few weeks following it.

3. The simplicity of the operation, the easy preparation, the ready consent of the patient and friends, render it possible of accomplishment, while the more formidable section would be either absolutely refused or fraught with greater danger.

4. Both maternal and fetal mortality compare favorably with that of induced labor, embryotomy and Cesarean section.

Dr. JOSEPH B. DE LEE of Chicago read a paper on

ASPHYXIA NEONATORUM, CAUSATION AND TREATMENT.

The author stated that the highest mortality that befalls the human race in one day occurs on the day of birth. Schultze estimates that 5 per cent. of children are stillborn, dying during labor, and 1.5 per cent. die shortly after birth as the result of the labor. Brothers states that in New York city from 1889 to 1892, over 16,000 children died from the labor or immediately after it. Dr. De Lee believes that this figure is not too large. Since in cases of suffocation of the pregnant woman the fetus dies first, because the mother abstracts oxygen from the fetal circulation, this and other conditions in the mother, as anemia, acute and chronic, heart disease, asphyxiation by gas, etc., are dangerous for the child. It is this that makes the prognosis bad for children delivered by Cæsarean section from women who died slowly. After the sudden death of the mother the fetus may live, and if promptly extracted may recover. Only 6 per cent. of the hitherto reported cases have lived. Premature separation of the placenta normally implanted; this may happen during pregnancy, and then is almost always fatal to the child, or it may occur near the end of the second stage of labor, when the child may be born alive. The death of the second twin in utero is often caused by two early separation of the common placenta. Besides the signs of asphyxiation shown

by the fetus, external hemorrhage in the intervals between the births gives warning of the danger. Separation of the placenta when it is previa, or compression of the placenta by the breech or colpeurynter used to stop hemorrhage, causes asphyxia. When the placenta is torn by manipulation, anemia is added to the asphyxia, and these are further aggravated by the anemia of the mother, all of which explain the high fetal mortality in placenta previa. Several other causes of asphyxia neonatorum were referred to by the author.

Coming to the treatment, paramount in importance is the recognition of asphyxia beginning while the child is still in utero, and fortunately this is almost always possible. One of the first signs of fetal danger is the decrease in the number of the heart beats. A steady slowing to 100 per minute, and certainly if below this, points to impending fetal danger. In some cases there is an increase in the number to 160 or more. This usually comes after the diminution has been pronounced, and betokens impending death from paralysis of the vagus. It may be primary, however, and should then be accorded the same significance as slowed heart's action. Irregularity of the heart tones, occurring in the intervals between pains, is also significant, and impurity of the first sound of the fetal heart carries important information to the experienced ear.

The second diagnostic sign is the passage of meconium. In breech cases this is of little value unless the breech is high up, and in the other presentations the sign should be accorded significance only when the meconium is fresh.

Another sign, but one that shows that the asphyxia has already become serious, is feeling, seeing or hearing respiratory movements made by the child. When the breech is half delivered one often sees the gasps made by the child. After podalic version the foot can sometimes be seen to move with the respiratory action. In one case the effect of fetal hiccough was thus observed. The obstetrician should recognize the causes of asphyxia and avoid them.

According to the author, there are three grand principles governing the treatment of asphyxia neonatorum: *First*, maintain the body heat; *second*, free the air passages from obstruction; *third*, stimulate respiration or supply air to the lungs for oxygenation.

Of all the methods of artificial respiration, only three have proven of service in the author's hands—compression (rhythmical) of the chest, the Schultze swinging and mouth to mouth insufflation with the tracheal catheter. Asphyxiated children and children delivered by severe operative procedures should always be watched for the first hours and days after labor. Their lungs not seldom fill up and cause secondary asphyxia. Such children are often found dead in their cribs; or they may never have cried vigorously, whining pitifully till death, when a more or less extensive atelectasis pulmonum is found. These children are much more subject to icterus and to sepsis, especially the intestinal and bronchial forms.

Dr. CARL E. BLACK of Jacksonville read a paper on

INFILTRATION ANESTHESIA.

He said it has now been five years since the method of anesthesia by infiltration was first introduced to the profession by its originator, Dr. C. L. Schleich of Berlin. He began the use of Schleich's solution with a distinct prejudice against it, but now its merit had forced him to continue using it. After doing a considerable number of minor operations by the method of infiltration, he was called upon some months ago to operate upon a much debilitated patient for tubercular peritonitis, which he did with satisfaction. To give the patient an anesthetic would have been hazardous, and it was decided to try the method of anesthesia by infiltration. He had made a considerable number of operations under anesthesia by infiltration, among them three abdominal sections, and found it very satisfactory. The patients suffer almost no pain and escape all the distress incident to general anesthesia. The giving of a general anesthetic is always accompanied by some depression, and in some cases when ether or chloroform are given, even for minor operations, there is marked depression and shock which is due to the anesthetic. The giving of a general anesthetic produces different effects on different patients, varying from almost imperceptible depression to marked shock or sudden death. The element of shock even in case of a major operation is much modified, to the advantage of the patient, by avoiding general anesthesia. Local anesthesia by infiltration or any other method can never entirely supplant ether and chloroform, but there is a large number of operations which can be performed more expeditiously and with greater safety by local anesthesia, and we should not fail to give our patient the benefit of these advantages. Recently he made an operation for appendicitis by this method with entire satisfaction, the patient making a rapid recovery. It seems to him that primary cases of appendicitis can easily be operated on early, before any pus formation, by this method, with great advantage to the patient.

Dr. LYMAN WARE of Chicago read a paper on

SYPHILITIC NEURO-RETINITIS.

During an experience extending over many years the author does not recall a single case of syphilitic neuro-retinitis following thorough and prolonged antisyphilitic treatment, by which he meant treatment given more or less continually for two or three years, then irregularly or intermittently for ten or twelve years more. Mercury he believes to be curative, while the iodid of potash in the early stages is only palliative. Syphilitic neuro-retinitis was never a disease that terminated spontaneously in perfect recovery. Without treatment it was sure to end fatally. The most skilful treatment, when begun at an early stage of the disease, might prevent a fatal termination in many cases; yet life was frequently rendered miserable and sad by partial or total blindness. While there were many who consider large doses of potash as the only remedy in nerve syphilis, and while the author believes it of great value in rapidly arresting the disease in some severe or dangerous cases, yet he does not think it compares with mercury in eradicating the syphilitic poison.

The paper closed with a report of five cases.

Dr. WILLIAM E. CASSELBERRY of Chicago read a paper entitled

MEMBRANOUS RHINITIS, DIPHTHERITIC AND NON-DIPHTHERITIC.

He said membranous rhinitis, also termed croupous rhinitis and rhinitis fibrinosa, is an acute inflammation of the nasal passages accompanied by a white membranous exudate which covers the whole or part of the inflamed mucosa. A membranous exudate frequently forms in consequence of chemic or electro-cauterization of the turbinated bodies, but this condition differs essentially from genuine membranous rhinitis. The exudate is thick, gray-white in color, confined to the immediate vicinity of the cauterized site, which it overlaps somewhat, shading off to a thin white edge a little distance from the center of the most intense inflammatory action. If this pseudo-membrane be forcibly detached on the second day it redevelops; if allowed to remain it becomes incorporated with the eschar produced by the cautery, and the whole will separate spontaneously like an eschar about the fifth day. From an etiologic point of view we may divide so-called membranous rhinitis into two types, diphtheritic and non-diphtheritic. Corroborative evidence of the identity of the diphtheritic type of membranous rhinitis with true diphtheria is occasionally obtainable in a definite history of exposure to infection while in attendance upon diphtheria patients.

It is seen that a liability to the dissemination of diphtheria lurks in the diphtheritic type of membranous rhinitis; it doubtless escapes medical observation and treatment, many times being regarded by the parents of the affected children merely as a "cold," while in reality, from etiologic and pathologic standpoints, it is a veritable diphtheria, differing only in degree rather than in kind.

Nevertheless, one is not justified in assuming all cases of membranous rhinitis to be diphtheritic, for in many the most careful search has disclosed only cocci. The crucial test lies in the microscopic examination of a culture, which should be deemed imperative in every case.

Pathology.—The structure of the pseudo-membrane is similar to that which occurs elsewhere in diphtheria. Microscopically it is composed of proliferated epithelial cells in a fibrous network.

Symptoms.—The symptoms are much the same for both types of the disease, and are ushered in by dryness and fulness of the nostrils with persistent tickling; later a free discharge, watery at first, but becoming thick and tenacious. By the third day an exudate will have formed which, if torn away by forceps, leaves bleeding points and soon reforms. The fibrinous deposit may occur in one or both nostrils and may embrace any or all parts of the passages, extending a variable distance backward. It rarely embraces the throat, although it may do so, or rather in these instances it seems to originate in conjunction with acute infectious pseudo-membranous inflammation of the faucial and post-nasal tonsils. Much discomfort ensues from the total occlusion of one or both nostrils and from the excoriation and tumefaction of the anterior nares, the external nasal appendage and upper lip being at times so red and swollen as to suggest erysipelas. In fact, it is likely that the microorganism of erysipelas may be one of those capable of producing membranous rhinitis.

(*To be continued.*)

THE
Journal of the American Medical Association
PUBLISHED WEEKLY.

SUBSCRIPTION PRICE, INCLUDING POSTAGE:

Per Annum, in Advance $5.00
Single Copies . . . . . 10 Cents.

Subscriptions may begin at any time and be sent to

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION,
No. 61 Market Street (Occidental Buildings), Chicago, Illinois.

MEMBERSHIP IN THE AMERICAN MEDICAL ASSOCIATION.

This is obtainable, at any time, by a member of any State or local Medical Society which is entitled to send delegates to the Association. All that is necessary is for the applicant to write to the Treasurer of the Association, Dr. Henry P. Newman, Venetian Building, Chicago, Ill., sending him a certificate or statement that the applicant is in good standing in his own Society, signed by the President and Secretary of said Society. Attendance as a delegate at an annual meeting of the Association is not necessary to obtain membership.

On receipt of the subscription the weekly JOURNAL of the Association will be forwarded regularly.

Gentlemen already members of the Association should send their annual subscription to the Treasurer, or direct to the JOURNAL office.

All communications and manuscript of whatever character, intended for publication in the JOURNAL, should be addressed to the *Editor*, and all communications relative to the business of the JOURNAL, proof sheets returned, or in regard to subscriptions, should be addressed to THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, 61 Market Street (Occidental Buildings), Chicago.

Original communications are only received with the understanding that they are exclusively contributed to this JOURNAL.

INFORMATION WANTED.

It would greatly facilitate the prompt delivery of the JOURNAL to those members of the ASSOCIATION living in large cities, if they would kindly furnish this office with their street address in those cases where it is omitted from the wrapper of their JOURNAL, as we have been notified by the postmasters of the larger cities that second-class mail matter not having street address, would be placed in the general delivery to await call.

SATURDAY, JUNE 19, 1897.

AFTER THE JUBILEE.

The effect upon the profession of such a gathering as that at Philadelphia, can scarcely be properly estimated at the time; indeed just such a medical meeting has never been held in this country.

When, for instance, in the history of the ASSOCIATION have so many leaders of the profession of one country been congregated? Were there ever better arrangements for the comfort of the entire company? Were there ever such a variety of professional papers? Was there ever a meeting in which the Sections were better attended? Were ever such clinics planned by the profession of any city, as were given by the teachers of Philadelphia during and following the great convention? The true answer to these questions, when fully considered, must result in assigning to the Jubilee meeting of the AMERICAN MEDICAL ASSOCIATION in Philadelphia an epoch-marking place in American medical history. Nor is the physician himself, as an individual, influenced.

As a painter returning home from an outing must bring home moss and specimens, and a poet, sentiment and images, so the physician returning from this reunion brings home tender recollections of the meetings with his old friends in the profession and a keener professional insight resulting from the sharper contests in the Sections, the new ideas advanced by the experimenters, the improved methods shown him by busy clinicians and the adaptation of modern pathologic views to hospital and college construction. And the auxiliary meetings! The Academy of Medicine! The Medical College Association! The Conference of State Boards of Examiners! The American Medical Temperance Association and the veterans composing the Rocky Mountain Medical Association, the latter, alas, a constantly diminishing body! All these had pleasant and profitable reunions, and all were animated by the spirit of the founder of the AMERICAN MEDICAL ASSOCIATION, which sought by professional union to foster higher professional aims, to stimulate individual excellence and personal purity of character.

Valete! Fratres Philadelphienses vos palmam fertis. Salvete! Fratres Denveri vostri labores difficiles sunt.

THE VETO OF THE OSTEOPATHY BILL.

The Governor of Illinois, the Hon. JOHN R. TANNER, has interposed his veto between the osteopathy bill and the public. The bill had slipped through the Senate unnoticed and unopposed. Some stir was made in opposition in the House, but there was not sufficient time to organize the profession, and the bill passed the House by a vote of 82 to 43.

The following members of the House of Representatives voted for the bill; let the profession take notice:

Anderson, Allen of Vermilion, Alschuter, Atchison, Avery, Bailey, Barnett Barricklow, Bartling, Booth, Bovey, Branen, Brignadello, Bristol, Buckner, Busell, Busse Robert C., Butler, Cochran, Compton, Conlee, Daugherty, Dewoody, Dickson, Dinnen, Edelstein, Ely, Farrell, Flannigan, Fuller, Funk, Galligan, Garver, Hammers, Hart, Houghton, Kilcourse, Kinche, loe, King, Kolstedt, La Monte, Large, Lathrop, Laub, Lovett, Lyon, McEniry, Merriam, Merrill, Metcalf, Montgomery, Morris, Murdock, Murray of Clinton, Needles, Novak, O'Donnell, Organ, O'Shea, Parrish, Perrottet, Perry, Powell of Cook, Quanstrum, Rowe, Salmans, Schwab, Sharrock, Shepard, Sherman, Sterchie, Suttle, Tisdel, Torrence, Trousdale, Trowbridge, Wathier, Weidmaier, White, Wilson, Wood, Wylie.

Dr. J. A. EGAN, the Secretary of the State Board of Health, worked hard against the bill, as also did Dr. J. W. PETTIT, the Chairman of the Legislation Committee of the State Medical Society, and DRS. KREIDER and BARTLETT of Springfield, but to little avail.

The slimy thing then crawled to the Governor's office, where in a few days its sponsors sought audience with the Governor, to urge him to put life into it by affixing his signature.

The Governor set a day for the hearing. In the meantime Dr. PETTIT was not idle; medical societies and individual members of the profession throughout the State sent letters and telegrams urging a veto. The day came and the osteopaths, men and women, came into the Governor's office headed by an able lawyer, Senator BERRY, as attorney, and the dubious "homeop." E. H. PRATT of Chicago, both of whom spoke. The Governor asked Dr. EGAN to answer their arguments, which he did, Yankee

fashion, by propounding some questions; among others: "What is osteopathy?" an interrogatory which proved a "poser" to the able Senator. The Governor then very promptly decided in favor of the profession and against the osteopaths. All honor to the Governor!

THE IDEALS OF THE ASSOCIATION.

There is in Dr. SENN's Presidential address, published in a late issue of the JOURNAL, a suggestion that may not favorably impress some of the ambitious juniors in the profession. The idea that six to ten years of active practice should precede participation in the proceedings of the ASSOCIATION may not be a popular one in these days, when the most recent graduate is ready to accept the highest professional positions, and as a rule perhaps considers himself more up to date than his older associates sobered by experience. It is not necessary to assume that this is especially an age when young men are most to the front, but it is an undeniable fact that the tendency to regard age and experience as entitled to special consideration is not so prominent as formerly, and that the "atrocious crime of being a young man" does not exist in any professional or social code of the present day. Youth, and possibly inexperience, has all of its natural advantages in its favor and is reaching out for more. The result is, to some extent, a loss of dignity and of some other desirable qualities, and it is a question whether we are not losers rather than gainers by the change.

Taking this view of the case there is certain reasonableness in Dr. SENN's recommendation. Six to ten years is not an excessive lapse of time in which to gain the experience that ought to finish off the second period of a medical education, after which any man of ordinary ability should be better fitted to edify his fellows with his professional contributions; and when it is a question of speaking with authority on practical subjects where only experience can give one a right to offer original facts, the wider that experience the better, provided that it is combined with an adequate knowledge of the results of the experience of others as found in the literature of the special subjects discussed. The suggestion of Dr. SENN that the young physician select the subject of his early literary work from the primary branches of the science of medicine: anatomy, physiology, histology, chemistry, pathology and bacteriology (understanding by this, really scientific work in these lines), and "reserve his efforts in writing on practical subjects until he has acquired sufficient experience to speak authoritatively," is on the whole, sensible advice, and he points out plainly the evident profitableness of such a course. It is not to be supposed that he would absolutely forbid the giving to the profession of valuable early experiences, unique medical or surgical cases, etc., when such occur, but even these if worth anything will keep and be better for mature consideration. A caution in this regard might well be given to the older as well as the younger members of our profession. Premature publication of cases has, it is to be feared, been the cause of much useless or worse than useless therapeutic and surgical interference. The temporary good effects of serious operations, prematurely reported without taking into consideration the essential element of time in estimating their effects, has had, it is possible, in our imitative and enthusiastic days disastrous consequences upon many victims who might otherwise endured evils under which they had at least found life still tolerable and desirable. Perhaps if Dr. SENN's further advice as to preparation for the discussion of papers that are read were less needed, if it were a generally appreciated fact that, as he says, it is usually more difficult to discuss a paper intelligently than to write one, and if the discussion itself always exercised a judicious censorship, this might not be so much the case. It is easier and generally pleasanter to commend than it is to criticise, though the latter practice would often be more profitable both to the criticised and to the profession and the public. It is not specially meritorious to cultivate an amiable weakness and the consequences may sometimes be disastrous.

What Dr. SENN says about honesty in reporting the unfavorable as well as the favorable results, ought to need no special endorsement, but should be accepted as only a statement of a self-evident moral truth. The need of its occasional reiteration, however, is none the less, and it was not out of place in his address. The same is equally true of his remarks on much of the medico-political discussions that have occurred in times past, and which have too often been utterly unprofitable and even actually damaging to the standing and scientific reputation of the organization. The ASSOCIATION should first of all be a scientific body; it holds a peculiar position as the most prominent medical society in the country and the higher its scientific reputation before the public and generally, the better for our profession.

The ideals of the AMERICAN MEDICAL ASSOCIATION can not be too elevated and it is well that its President should impress upon it this fact. It is a satisfaction that the session just closed was one that has, it is believed, been an advance in a scientific point of view over prior meetings and in all respects a creditable and successful one.

THE FOREIGN CULT IN AMERICAN MEDICINE.

The latest published utterance of a recently deceased American naturalist, who was second to none in the specialties he had adopted, and was furthermore one of the most philosophic and broadest in his culture, was a protest against a tendency that appears to exist

among scientific students to overestimate the value of the study of the infinitesimal and the culture of Europe as compared with our own. If this is true amongst scientific men it is much more so in medical circles, and his essay may well serve to point a moral for the consideration of our profession. At the present time it is still the fashion to consider no medical education complete without a visit to European medical centers, and there is a certain prestige to a practitioner who has "hospitirt" in the lecture rooms of Berlin or Vienna, or other transatlantic university city. It is assumed that wisdom has been absorbed, whether the sojourn was brief or lengthened, and the question of acquaintance with the language, or of actual study, is seldom or never raised. There are many who claim this prestige who would fail to understand twenty-five consecutive words of a lecture delivered in any other tongue than their own, and whose attendance might have been as well in Moscow or Bucharest as in Berlin or Paris, for any good it has done them. There are others, somewhat better fitted, who enter laboratories and pick up a certain amount of knowledge, which they might have better learned in their own country, and ever after claim the distinction of an acquaintance and familiarity with the great lights of medicine abroad that they turn to their financial profit by advertising it amongst a wondering clientele. Having too often had no experience, and leaving their own land in the callow state of recent graduation, they are liable to only imbibe one-sided and false notions, to the disparagement of their country and its scientific standing, the more so, since by exploiting these on their return they think they contribute to their own glory by shining in the reflected light of their illustrious European acquaintances. There is, of course, another class who honestly admit that a European trip is more for pleasure than business, and a certain number who actually utilize it adequately and estimate it at its proper worth. These, however, are largely special students, and often those who have already done scientific work that has given them a standing, it may be, even abroad. It is abundantly true that an American who is properly fitted can learn something abroad, as the converse is also true that the European could learn something here, if he only could get that fact into his consciousness. Too many, however, of the freshly made doctors, who finish off with a European trip, derive from it no intellectual benefit whatever; their principal acquisitions are liable to be a certain deterioration of morals and a large amount of additional conceit. In time, under wholesome home influences, this will probably wear off, but it is no advantage to have had it exist and it must leave to a proper minded individual an unpleasant reminiscence.

With those who really profit by European study no one would need to quarrel, but for the fact that even among these there are some who, through want of mental balance or some other defect, come back with an undue estimate of themselves and a disparaging opinion of their own country and countrymen. A "certain condescension in foreigners," humorously noted by Lowell, can be endured, recognizing the fact that it is generally a characteristic of second rate individuals, but to have it encouraged by the peculiarities of our own compatriots is not at all gratifying and is much less endurable. It almost makes a little medical jingoism seem desirable to counteract the silly egotism that tries to magnify itself at its country's expense.

Professor COPE's protest against the undue magnification of microscopic research is also valid in medicine; we have the same tendency to correct. Section cutting and staining learned abroad no more makes a pathologist than it does a biologist, and it is in medicine, as in science, not less really scientific to observe properly with the naked eye than "through a brass tube furnished with lenses." The overestimation of the latter method is responsible for the waste of much patient work and expense, and this is especially true in medical science. What we need is not less careful pathologic work, but more and better clinical observation to guide and interpret it, and it is easier to make a trained microscopist than a really skilled clinician. As it is, however, it often happens that a manual skill and dexterity in microscopic work is valued above far more important and difficult accomplishments, simply because it is more showy and requires the use of elaborate paraphernalia that are beyond the reach of the many. There has been a large amount of imposition upon the medical public in this way, as is shown by the records of much so-called pathologic work in the past. It is to be hoped that there will be less of this in the future, but this result will be brought about more by a correct appreciation of the greater value of good and thorough clinical observations than by anything else. It is worth while to occasionally emphasize this truth.

There is a possibility of becoming eminent in medicine without a European polish to our professional education, but there is a slowness in certain quarters and certain individuals to recognize this fact. Indeed it is even now a matter of surprise and comment amongst some high European authorities that there should be such a lack of recognition, but it is not their interest to complain. The time, however, will come when American centers of medical education will draw European students, and at the present rate of progress it may not be so very far distant. The sooner it appears the better, and we can best aid its coming by discouraging the dishonorable depreciation of what is really good in our own country, and the too prevalent cult of a foreign fantasy in matters of medical science and education.

CORRESPONDENCE.

Food in Diabetes. A Reply to Dr. Cutter.

FORT ASSINNIBOINE, MONT., June 10, 1897.

To the Editor:—The communication of Dr. J. A. Cutter, published in the issue of the JOURNAL for May 29, should not pass without a reply.

In this letter he states "my plan of treatment has been to stop the fermentation of any kind of food in the alimentary tract because such fermentation produces carbonic acid and other paralyzing gases *and these gases act directly on the liver and help to increase the production of sugar.*" (The italics are mine.) This is certainly important if true and, being unable to find any reference to this point in the various works on physiology accessible, I would beg Dr. Cutter to name his authorities for such a surprising statement.

"Again," he says, "American morphologists have shown for over thirty years that starches and sugars promote alcoholic and acetic acid fermentation in the stomach and bowel."

Unfortunately for this statement, Foster's Physiology does not recognize the occurrence of any such condition as alcoholic and acetic acid fermentation in the bowels and, furthermore, it is difficult to understand what "morphologists" would have to do with such a purely physiologic problem; since "morphology" is defined by the Century Dictionary as "The science of the external form and internal structure of animals and plants."

Again he says, "Victor Hugo, in 1862, in his great work 'Les Misérables,' called attention to the kinship of consumption and diabetes and to the rôle that sugar and sweets play in acid fermentation and *as a cause of these two diseases.*" (The italics again are mine.)

It is certainly somewhat extraordinary for a physician to appeal to a layman as an authority on a professional subject and, after we had supposed that Koch had definitely settled the etiology of consumption, to have sugar brought forward as the *fons et origo mali* in the production of two such dissimilar affections as diabetes and tuberculosis. One shudders to think of the awful possibilities lurking in a morsel of sponge cake or box of bonbons.

Dr. Cutter also says, "as to prognosis, a young woman in 1888 with not a large percentage of sugar is living today. I do not know what her condition is, but she is living and I judge in fair health." Permit me to call Dr. Cutter's attention to an admirable article by Dr. Wadsworth, published in the New York *Medical Record* for May 29, 1897, on the diagnostic value of sugar in the urine in diabetes mellitus. In this article he reports his observations on eleven members of one family, all of whom showed sugar in the urine—in one instance as much as 10 per cent. All of these individuals were previously ignorant of the existence of any abnormal condition and enjoyed good health, the most marked case remaining apparently healthy during an observation lasting over six years. Dr. Wadsworth concludes his article by saying, "Basing my conclusions on the cases I have reported and four other cases which came under observation, three of which were only temporary, I think it should be clearly understood that the presence of sugar in the urine, regardless of the amount is not in itself sufficient to warrant a diagnosis of diabetes mellitus." This point I have endeavored to emphasize in the articles which have recently appeared in the JOURNAL. I am tempted to question the diagnosis of the case quoted by Dr. Cutter and am firmly convinced that far too many patients with sugar in the urine are unnecessarily subjected to the mental suffering, medication and restrictions usually consequent to a diagnosis of diabetes mellitus. I believe that test-tube diagnoses are much too common and that unwarranted conclusions are too hastily reached. Sugar occurs in the urine as a result of many conditions, and, of these, true diabetes is one of the least frequent. A diagnosis based simply on urine analyses without reference to the katabolic condition presented by the patient I should consider as wholly untrustworthy.

Dr. Cutter believes in an exclusive beef diet as a panacea. In this he is opposed by all physiologists to whose works I have access.

Medical men may be surprised to learn from Dr. Cutter that "it has been considered by the profession that beef causes uric acid conditions which lead to coma and death." The production of uric acid is greatly increased under a meat diet but that it is generally believed that this body is capable of producing coma and death, I am not willing to admit. Dr. Cutter denies that he has ever "seen *uric acid* coma and convulsions caused by beef" and so far as I am able to learn no one else has either. The large amount of nitrate of urea observed so frequently by Dr. Cutter has no bearing whatever on the case, any specimen of urine from cases of fever or wasting disease giving it. Since Dr. Cutter claims credence by virtue of his experience with this disease it may not be out of place for the writer to state that he has been working on this subject over six years and that the case recently reported *in extenso* is the one most carefully studied among several observed during that period.

Dr. Cutter calls for the experience of others as well as myself. In such a necessarily brief communication as this I can do no better than quote the words of Dr. Prescott, published in the *Boston Medical and Surgical Journal*, Sept. 3, 1896, in which he says, "In looking over the literature of the subject (diabetes) I found there was one man who had a large experience and who was assistant to a man who had even greater experience, Dr. Grueber of Nauna, which is a sanitarium in Coblenz, Prussia. Dr. Grueber has seen 187 cases and the man under whom he worked had seen 3,000 cases. He reports one case which I will read as it is rather instructive as showing what can be done even if it goes against our preconceived ideas.

"Man, 39. Father and sister died of diabetes and brother under treatment for it. For two years lived almost entirely on meat, fish and eggs, but was unable to tolerate so rich a diet and occasionally took bread and potatoes. When first seen was unable to walk, had a peculiar livid flush of the face, edema of the feet. Breath had the odor due to acetone, tongue and lips dry and cracked, constipated, urine 5 per cent. sugar, large in amount and acetone and diacetic acid present. As he thought diabetic coma on the point of developing he advised very little meat and fish, no eggs but as many potatoes as he liked and an ounce of bread per day. Much water was given and 20 drops of nitrous ether three times a day. In two days the urine contained 6.3 per cent. of sugar, very little acetone and no diacetic acid, thirst less and odor from breath scarcely perceptible. On fifth day a stricter diet, but allowed potatoes freely. In three weeks sugar 1.1 per cent., able to walk half an hour at a time, no abnormal thirst. This improvement had continued up to the time the case was reported, about three months. This case was given by Dr. Grueber as a typical one showing the results of the treatment advocated."

This case of Dr. Grueber is almost parallel with my own reported in the JOURNAL for May 8, 1897, but which was observed several years ago. Very respectfully,

EDWARD L. MUNSON, M.D.
Assistant Surgeon, U. S. Army.

Observations on the Semi-centennial Meeting.

DETROIT, MICH., June 7, 1897.

To the Editor:—The most careless listener to the exercises held in Philadelphia, June 2, 1897, must have noted the evolution of the ASSOCIATION from its primary objects.

As to membership: at first this included delegates from med-

ical societies, State and local, from hospitals, and from medical colleges. Now only delegates from medical societies are admitted. The interest of the medical colleges are looked after by the American Medical College Association; the parent organization is interested only as the colleges furnish adequately trained medical men for its membership. To this end it frequently admonishes, and encourages, but no longer takes colleges as such into its fold.

So with hospitals; Boards of Health, city, State and National; these have their representative societies local or National. Formerly the ASSOCIATION by its societies had a voice in regulating the practice of medicine; now State Boards with State authority attend to this duty.

Without going farther into detail it is clear that the only thing left, other than advisory, is the development of the science and art of medicine, and cultivating the spirit of National brotherhood. Thus it has cut loose from all financial interests, from all vested professional rights of any sort, and restricted its efforts to the gathering in the largest amount of professional research and after classifying, scattering it abroad through its JOURNAL. The JOURNAL is the center of its active life. This active life will be strong just as the Section work of the ASSOCIATION meetings is broad and thorough.

Such Section work can only be accomplished by the disinterested planning of Section Officers and members. The interests of the Section must be held of the first importance by each member of the same, in order that each may do his best. Each must see that such action will return the largest return for the expense and loss incident on attendance at ASSOCIATION meetings. Such return will be largest when there is no obstacle to work in the Sections during the entire day, reserving the evening for social commingling. Such Section work calls for the placing of the duties of the nominating committee in the hands of the present business committee; the restricting the President's address to fifteen minutes, and all public ASSOCIATION speeches to ten minutes, and discussions to five minutes. Really the only good purpose of the general meetings is to accept or reject committee reports, indulge in a few formal platitudes for the sake of seeing and hearing a few voices. No important business, or question of medical science or art can be discussed in a large public gathering like the ASSOCIATION. Recognizing this it has already made permanent committees so as to have its affairs thoughtfully studied and regulated. One hour a day should be ample to transact all general ASSOCIATION business, and the rest ought to be scruplously assigned to the Sections. The placing of the nominations in the hands of the business committee would save the members much time and not a little temptation to wire-pulling. However it will be noticed by all that the power of the President of the ASSOCIATION has gradually diminished, until even now it is of far less importance than a chairmanship of one of the live Sections. It is also noticeable that in the best Sections there is no wire-pulling over the selection of officers. The prosperity of the Section depends so entirely upon the selection of persons who are able and willing to sacrifice themselves to promote the interests of the whole, that more deliberate thinking enters into their selection.

Clearly in its process of evolution the Sections of the AMERICAN MEDICAL ASSOCIATION are moving toward a time when to be an active member of a Section will be regarded as more desirable than an official position.

It is easy to see that such a state of things would leave a large increase of energy free for the real Section work; it is just as clear that in that day the power of the ASSOCIATION would be incalculable for good and as full of delight as of profit to its members.

The scientific medical men of the United States have the Sections of the ASSOCIATION absolutely within their control. If these Sections do not accomplish what they might desire, they have only themselves to reproach. Yearly it is noted they are flocking in larger numbers to the Sections and fashioning them in accord with their purpose. They see in such a course a means of profit and pleasure to themselves nowhere else afforded.

Two reforms are imperative ere the highest development of the ASSOCIATION is reached. By the first the nominating committee is merged into the present executive committee. This adequately represents by a permanent body the Sections, and so the entire profession. The second changes membership to a single class, viz., those who are members of recognized medical societies, State or local, and who agree to support the ASSOCIATION'S Constitution and By-Laws and Code of Ethics, and pay their annual dues. This latter would admit of an actual membership as great as that of all organized medical societies, while the existing machinery of the ASSOCIATION would accord to each equal rights and privileges. With such a backing the JOURNAL must needs become the most powerful in the world and lead the profession in its process of higher development.

In one respect the Sections of the ASSOCIATION have an immense advantage over the special societies, viz., in the inexhaustible source of membership. The recognized medical societies ramify into every part of every State; each member of these is eligible to membership in one of the Sections. Once actually in that Section he takes the place his talents and industry accord. If a real addition to its working force he stays, if not, he naturally finds the atmosphere uncongenial. In this manner, by operation of natural law, that which is good will be retained and the undesirable will vanish. The whole Section is really the examining board which each member of the Section must pass before he attains a comfortable membership therein. No matter how many are rejected the supply is never exhausted.

We all know the heart burnings, the disagreeable features of the methods adopted by existing special societies. We suggest that the methods of the Sections of the AMERICAN MEDICAL ASSOCIATION are more in accord with the laws of medical sociology and in the end more satisfactory.

It is granted that this method calls for the eternal vigilance of the real leaders, but this is essential in all coöperative work. Such leaders have appeared in several of the Sections, and others are rising in the rest, so that in the near future all will have as desirable a record as the ophthalmic.

Enough has been noted to support the claim that the AMERICAN MEDICAL ASSOCIATION enters upon the beginning of its second half century organized for better work than ever and with good hope of improving such organization, so as to vastly extend the bounds of its working membership, with a membership larger than ever and more devoted to the advancement of its interests.

LEARTUS CONNOR, M.D.

PUBLIC HEALTH.

New York City's Lowered Death Rate.—The Bureau of Vital Statistics gives out the fact that the death rate of the first week in June is lower than for any corresponding week in the last twenty years. There were only 351 deaths during the lapse of four days, as against 696 in 1894 and 841 in 1895.

Money More Needed Than Food.—Julian Hawthorne on the famine in India, says that "food is hoarded in the country and the starving ones only need money to save their lives." His estimate of the mortality is 8,500,000 out of a given population of 287,000,000, and this latter number is made to represent the wealth of lives in British India.

Precautions Against Smallpox.—The Board of Health of Boston have sent out a circular to the physicians of that city requesting especial care in the examination of all cases of chickenpox, and

that they be reported to the board. This precaution is taken owing to the possible danger of a mild case of smallpox (and this is the type of the cases recently discovered in Boston) being mistaken for chickenpox.

The Danger from Bovine Tuberculosis.—Dr. W. L. West of Ellsworth, Me., has reported to Dr. G. H. Bailey that two children of a man named Luther Bridges have recently died of tuberculosis, due to drinking milk from a cow which was found, when killed, to be the subject of extensive tubercular disease, largely localized in the udder. Five of Bridges' nine children are suffering from pulmonary tuberculosis and several are now, according to the report, fatally ill.

The Mortality Rate of European Cities.—According to the published Belgian statistics, Frankfort-on-Main leads the sanitary record, the mortality being only 15.6 a thousand. The Hague follows next with 16.6; then comes Edinburgh, with 16.8; Stockholm and Genoa, with 17; Copenhagen, 17.1; Turin, 17.2; Amsterdam and Hamburg, 17.8; Berlin, 18; Rotterdam and Nice, 18.5; London, 18.8 and Brussels, 18.9. Thus it appears that Nice has a larger pro rata mortality than Berlin, Edinburgh or Hamburg. Still this may be due to the invalid contingent disappointed in their search after health.

Not Altogether Irrational.—Mr. Arnold White, the philanthropist, as quoted by the *Medical Mirror*, says in regard to what he styles "the supply of the suffering," that "Foreign generals note the contrast between the physical renaissance of the continental generals and the fool's paradise in which England basks. Our separaste caste of fighting men, our cult of sickliness and worship of weakness, our heedless conversion of the rural population into pastry-faced townsmen, and our cheerful dependence for food products on healthy races and possible enemies, are matters that are watched abroad with delighted surprise."

Famine in China.—The secular press speaks of the "cruelly severe" famine in the north and east of Szechuen province, China. The relief commissioners saw a large number of decomposed bodies on the way to the thickly populated districts involved in the visitation, and a returned traveler reports that about half of the inhabitants of a stricken town had perished from either starvation or the resulting complications. The government has forwarded 120,000 piculs of rice, but is much hampered through want of transportation facilities. There are also more serious obstacles to benevolence, for many rich Chinese are so accustomed to accounts of famine and plague that they refuse to contribute. In Shanghai only 103 taels in money could be collected. It was given to the Protestant missions for distribution.

A Death from Yellow Fever.—The Columbian Line steamer *Advance*, from Colon to New York, arrived at quarantine June 11 with ship's crew and first cabin passengers all well, but a second cabin passenger attacked with yellow fever two days after sailing died a few hours before coming within jurisdiction. The statement was that none of the crew were allowed ashore at Colon, and that every night the vessel was moored away from its pier. Health officer Doty had no fears of a spread of the disease in New York or vicinity, as cremation of the corpse at Swinburne Island had been ordered, the ship was to be thoroughly disinfected, the forty-seven first cabin passengers were to be brought by steamboat to the city, there to be under observation, while the second cabin passengers were to remain five days at Hoffman Island. The *Advance* was subsequently allowed to proceed to her pier.

NECROLOGY.

JOB LEWIS SMITH, M.D., an honored member of the AMERICAN MEDICAL ASSOCIATION, who died in New York City June 9, was born in the village of Spafford, N. Y., October 15, 1827. He prepared for college at the Homer Academy in Cortland County, N. Y., and entered Yale in 1847 as a member of the same class with President Timothy Dwight. A graduate in 1489 he began the study of medicine with Drs. Goodyear and Hyde and later with Dr. Caleb Green. Then he attended lectures at the Buffalo Medical School in 1851 and 1852, after which he went to New York and entered the College of Physicians and Surgeons, graduating in 1853. Dr. Smith then began the practice of medicine, giving special attention to the diseases of children. He was a worker for over twenty-five years in the Infant Asylum and the New York Foundling Asylum, constantly contributing to medical societies and periodicals. He prepared a general treatise on the diseases of children, which is regarded as a standard in this country, and which has enjoyed the honor of many translations. His reputation as an expert led to his appointment as Clinical Professor of Diseases of Children in Bellevue Hospital Medical College, and to his election as an active and honorary member of many medical societies. He was consulting physician to the children's class in the Bureau for the Relief of Outdoor Poor and physician to the Charity Hospital. Four daughters and two grandchildren survive him. His was a life of good works.

CHARLES O'LEARY, M.D., died at his home in Providence, R. I., June 1, of Bright's disease. Dr. O'Leary was formerly president for two terms, 1881 and 1882, of the Rhode Island Medical Society, and was at one time connected with the faculty of St. Mary's College, Emmetsburg, Md. While there he wrote a Greek grammar that for many years was the standard work in Roman Catholic colleges. He served as surgeon and medical director during the civil war. He was a graduate of the Long Island Medical College, in the class of 1860. During the time of his residence in Cincinnati he served as a professor of chemistry in the Medical College of Ohio and resident at the St. John's Hospital. For nearly twenty years he was surgeon of the Rhode Island Hospital. Two sons are physicians of Providence.

ASA F. POTTER, M.D., Boston, June 1, aged 62 years, a descendant from a long line of physicians back to William Potter, who was physician to Oliver Cromwell and Charles II. In 1857 he received the degree of M.D., from Dartmouth College; in 1864 entered the army as assistant surgeon; and in 1883 was elected professor of materia medica and therapeutics and lecturer on nervous diseases at the College of Physicians and Surgeons. He was a member of the Massachusetts Medical Society, the AMERICAN MEDICAL ASSOCIATION, for several years president of the Boston Therapeutical Society, and an honorary member of the Botanical Society of Italy.

HENRY E. TURNER, M.D., University Pennsylvania, 1836, who recently observed the sixtieth anniversary of his diploma, died in Newport, R. I., June 2. He was born in Greenwich, R. I., 81 years ago and early went to Newport, where for a long time he was city physician.

FRANCIS L. DICKINSON, M.D., of Rockville, Conn., died in New Haven, Conn., June 2. He was born in Chatham, Conn., in 1817, and was graduated from the Yale Medical School in 1840. He served several terms in the State Legislature and was a State senator in 1877 and 1878. He leaves two sons.

EDGAR A. KEELER, M.D., died at Little Falls, Passaic Co., N. J., June 7. He was a graduate of the College of Physicians and Surgeons, Baltimore, Md., class of 1880.

EDWARD SEAMAN BUNKER, M.D., died at Bath Beach, Brooklyn, N. Y., June 8, in his 57th year. In 1857 he was graduated from the Polytechnic Institute and for ten years remained there as a teacher of classics. In 1871 he received his degree from the Long Island College Hospital.

WILLIAM D. ALDRICH, M.D., Dartmouth, 1872, an active assemblyman of New York State, died June 4 at his home in Warrensburg. During the forenoon he complained of not feel-

ing well and retired. About 2 o'clock his wife visited his room and found his lifeless body.

W. H. STRANGE, M.D., died in Toronto, Canada, June 4. He rose early to go to Niagara, but died after only a three hours' illness. He was Deputy Surgeon General of the militia forces of the Dominion.

ROBERT SCOTT, M.D., of 325 East 69th Street, New York, died in the Presbyterian Hospital June 9, of cancer of the stomach. He was a Scotchman, unmarried, and a graduate of the Edinburgh University.

CHAS. E. ENGELS, M.D., Chicago, aged 35 years.——Karl Esch, M.D., Peoria, Ill., June 10, aged 37 years.——Robert Moffitt, M.D., Mt. Pleasant, Iowa, June 10, aged 30 years.——Thomas Aquinas Purcell, M.D., Holyoke, Mass., May 31, aged 36 years.——Joseph Waggoner, M.D., Ravenna, Ohio, June 7, aged 75 years.——E. J. Longshore, M.D., Scranton, Pa., June 7, aged 53 years.——H. C. McCarthy, Altoona, Pa., June 6, aged 56 years.——George T. MacCord, Pittsburg, Pa., June 7, aged 51 years.——Wm. H. H. Hutton, M.D., Surgeon U. S. Marine-Hospital Service at Detroit, Mich., June 14.

SOCIETY NEWS.

Congress of the French Society of Otology and Laryngology, Paris, May.—Moure terminated his address on ozena by protesting against the too frequent assumption that ozena is incurable. His treatment is merely nasal and retro-nasal antiseptic irrigations with sprays of the same and of oil after removal of the crusts when the patient wishes only to be relieved of the fetid odor. When more complete treatment is desired he adds vibratory massage every second day for a fortnight, then twice a week for a month, then once, and more rarely after this. The massage is followed by irrigation and removal of all the crusts and then with a spray of 5 to 25 per cent. nitrate of silver. He reports numbers of cures with this method sufficiently prolonged. It also enables the existence of complications to be determined and cured. General tonic treatment is necessary with it as indicated. Luc presented a couple of patients cured of empyema of the maxillary sinus by his new method, which he claims combines the advantages of other methods without danger of infection through the mouth and proves a rapid and complete cure for this obstinate trouble. He opens into the sinus through a large incision in the gum, resects the anterior wall, curettes with extreme care with electric light and cauterizes with a strong solution of chlorid of zinc. He then makes an opening between the sinus and the nasal fossæ and introduces a drain into this opening, passing through the nose and ending outside. After dusting the sinus with iodoform through the incision in the gum, the latter is then sutured with fine catgut and soon heals. The sinus is irrigated through the drain with iodoformed ether; later with solutions of formol and boric acid. By the end of the fifteenth or twentieth day the drain is removed and the patient is definitely cured. The subjects to be discussed at the Congress next year are "Acoustic Unity and Pathology of the Tonsils."

Congress of the French Obstetric Society, Paris, April.—Habitual abortions without appreciable cause, was discussed among the other subjects. Charpentier has succeeded in curing this tendency in plethoric women by applying leeches to the cervix, but he usually restricts his treatment to wet cupping over the kidneys. Metritis is a frequent cause, and he advises the cautery for such lesions of the cervix and curetting for metritis of the fundus. Lefour has succeded by rendering the uterus tolerant by the insertion of an interuterine pencil for eight months to a year, with repose in bed during the menstrual molimen and the administration of opiates and bromid. The congress resolved to urge the creation of special services at Paris for infected obstetric cases and pregnant suppurating cases, and also the examination of the midwives of the Benevolent Bureau. The subjects announced for next year are placenta previa and applications of the forceps to the superior strait in flat pelvis, with classic presentation. A blank for infant's bulletins was presented, with the normal curve of weight during the first year for comparison. It was asserted that an effectual way to increase the mammary secretion when a woman is unable to supply sufficient milk for one child, is to give her two or three more children to nurse. The greater the demand the larger the supply.

New Hampshire Medical Society.—The one hundred and sixth annual meeting of this Society was held in Concord, May 24 and 25, 1897. There were about one hundred and fifty present and fifty new applications for membership. The first day was occupied in the reading of papers, while at the evening session the members listened to an address on "Medical Expert Testimony," by Hon. William L. Foster of Concord, ex-Judge of the superior court, also to a scientific description of the X-ray with a practical exhibition of its application to surgery, by Prof. J. Milner Coit, Ph.D., of St. Paul's School, and Dr. Adrian H. Hoyt, General Manager of the Electrical Instrument Co., Penacook. On the second day a paper on "Causes and Recent Treatment of Neurasthenia," by John D. Quackenbos, M.D., of New London, and a paper entitled "When to Call a Surgeon in Acute Abdominal Affection," by George W. Gay, M.D., Boston, were presented. President Richardson read his annual address. The following officers were elected: President, Dr. Moses C. Lathrop of Dover; vice-president, Dr. George H. Saltmarsh of Laconia; treasurer, Dr. M. H. Felt, Hillsboro Bridge; secretary, Dr. Granville P. Conn Concord.

Congress of Syphilography.—The Congress to Arrest the Spread of syphilis in Russia, recently summoned by the government, was attended by over 500 persons, including physicians, teachers, professors, heads of penal and other institutions, inspectors of factories, military and marine officers, etc. We note among the measures proposed, stricter supervision of the morals of the young, and cultivation of outdoor sports; education of the public to the dangers of syphilis by popular illustrated lectures, ably written pamphlets, etc; soldiers encouraged to practice some trade; the adoption of a uniform blank for recording all cases, and for annual reports to a central bureau, suppressing names; rigorous physical examination by female physicians of prostitutes, and Tarnovsky urges the examination of the men who visit them. Foundlings should be fed artificially until six weeks have passed without evidences of syphilis, and syphilitic infants should only be given to syphilitic nurses. Rigorous and compulsory general medical examination of the employes in factories, public baths, etc., was also urged, with the organization of flying medical squadrons like those sent out a while ago to fight eye diseases. Fairs and large gatherings should have a special medical force provided. Home physicians of discharged syphilitic soldiers should be confidentially notified. With all this, strict professional secrecy is imperative, personal liberty respected, and to avoid inflicting a stigma upon the patients, there must be no specialism, but the hospitals, medical squadrons, etc., must examine all alike and treat all diseases. The proceedings are given in full in the *Ann. de Derm. et de Syph.* for April. The promoters are confident that the numerous practical and appropriate measures proposed bear the stamp of realization. They assume the coöperation of local benevolent societies in various ways and greatly increased gratuitous medical and hospital facilities.

An International Congress of Neurology, Psychology, Medical Electricity and Hypnology will be held in Brussels, Sept. 14 to 19. The addresses announced in neurology are: "Surgical Treatment of Epilepsy," Professor Winkler, Amsterdam; "Exophthal-

mic Goiter," Professor Eulenburg, Berlin; "Pathogenesis and Semeiology of the Reflexes," Professor Mendelssohn, St. Petersburg; "Influence of Delivery on Later Nerve and Brain Troubles in Children," Professor Anton, Graz; "Muscular Rigidity and Contractions in Organic Affections of the Nervous System," Professor Van Gehuchten, Louvain. Psychiatry: "Diagnostic Value of Prodromal Symptoms Preceding the Manifestations of Progressive Paralysis a long while." Professor Thomsen, Bonn; "Psychoses and Dreams," Dante de Sanctis, Rome; "Modifications in the Picture of Progressive Paralysis in the last Thirty years, Professor Mendel, Berlin; "Relations Between Psychoses, Mental Degeneracy and Neurasthenia," Lentz, Tournay. Medical Electricity: Semeiologic Value of the Electric Reactions of Muscles and Nerves," Professor Doumer, Lille; "Therapeutic Value of Currents of High Frequency," Professor Bergonie, Bordeaux. Hypnology: "Therapeutic Value of Hypnotism and Suggestion," Milne Bramwell, London; "The Question of Criminal Suggestions," Professor Liegeois, Nancy. Applications for membership should be addressed to Dr. Crocq fils, 27 Avenue Palmerston, Brussels. Fees, 20 francs.

Twelfth International Medical Congress, Moscow.—The Czar has taken the Congress under his protection and the delegates are to be presented to him by the ambassadors from the various countries. All members of the Congress are to be carried free from the frontiers to Moscow and return, and no customs levied on instruments or small quantities of drugs. (*St. Petersb. Med. Woch.*, May 8.)

The program announced by the Section for Nervous and Mental Diseases is as follows: 1. Pathology of the Nerve Cell, Van Gehuchten, Belgium; Dana, New York; Van Giesen, New York. 2. Syringomyelia, Schultze, Bonn; Schlesinger, Vienna; Minor, Moscow. 3. Tabes Dorsalis, Obersteiner, Vienna; Pierret, Lyons; Erb, Heidelberg; Grasset, Montpellier; Althaus, London; Darkschewitsch, Russia; Borgherini, Padua; Eulenburg, Berlin; Benedikt, Vienna; Raichline and Hirschberg, Paris. 4. Operative Treatment of Diseases of the Brain, Oppenheim, Berlin; Sachs, New York; Voisin, Paris.

Addresses on other subjects will be given by Lombroso, Turin; Crocq, Brussels. 1. Hallucinations and Fixed Ideas, Pitres and Regis, Bordeaux; Shaw, Liverpool. 2. Paralysis of the Insane, Binswanger, Jena; Althaus, Homen, Helsingfors; Muratow, Moscow. 3. Hypnotism and Suggestion, Bernheim, Nancy; Tokarski, Moscow; Robertson, Glasgow; Gorodichze, Paris. Other speakers: Morel, Ghent; Fürstner, Strasburg, Francotte, Liège; Shuttleworth, England; E. Christian, France; Meschede, Germany; Leyden, Berlin; Henschen, Upsala; Ballet, Paris.

The Section for Hygiene sends out the following program: 1. Scientific Principles applied to the judgment of potable Water, Hueppe, Prague; Vaughan, Michigan; Gintl, Prague; Jolles, Vienna; Bujwid, Cracow. 2. Physical Training of Youth; how best attained by school Gymnastics, Palmberg, Helsingfors; Baginsky, Berlin. 3. Investigation of mental Overwork in Schools, Wirenius, Petersburg; Baginsky. 4. Alcoholism from the standpoint of social Hygiene, Duties of the State and of Society in this respect, Felix, Bucharest; Bergeron, Paris; Korowine, Moscow. 5. Importance of first help Societies, Frey, Vienna. 6. Homes for the Poor in large Cities and homes for Artisans in industrial Localities, Nagyvany, Budapesth; Berthensen, Petersburg. 7. Conditions for the spread of Tuberculosis and measures to prevent it, Vaughan; Nocard, Paris; Ostertag, Berlin; Morot, Troyes; Bujwid. 8. Hygienic measures in infective Diseases and value of protective Vaccination, Hueppe; Bose, Montpellier; Kral, Prague, etc. 9. Organization of sanitary Statistics, Felix, Guttstadt, Berlin. 10. Importance of medical instruction for Women.

In the Section of Obstetrics and Gynecology, Pinard, Paris; Varnier, Paris, and Zweifel, Leipsig, will speak on Symphyseotomy. Leopold, Dresden; Hennig, Leipsig, and Varnier, on External Investigation. Bar, Paris, and Varnier on serum therapeutics in puerperal sepsis. Fritsch, Bonn; Leopold and Sänger, Leipsig, on the Connection between Gonorrhea and Puerperal Troubles. Colpotomy in diseases of the Adnexa, displacement and Neoplasms of the Uterus, Candela, Valencia; Doyen, Rheims; Dührssen, Berlin; Martin, Berlin. Gonorrhea, and its Therapeutics in the non-pregnant, Sänger, Leipsig; Truzzi, Parma. Surgical treatment of Peritonitis, Martin; L. Tait, Birmingham; Winckel, Munich. Value of the different methods of operating Carcinoma of the Uterus, in respect to relapses, Sänger; Tait; Winter, Berlin. Addresses on other subjects are announced by Chrobak, Vienna; Clarke, Boston; Sneguirew, Moscow, etc.

MISCELLANY.

Undoubtedly Antivivisectionists.—The American Pet Dog Club met at Wildhurst, N. J., June 10, and adopted a badge. One hundred and ten ladies were present, including delegations from St. Louis, Philadelphia and Atlanta.

Personal.—P. M. Woodworth, M.D., Chicago, has been appointed by Governor Tanner to the Lincoln Park Board. Joseph C. Gordon, M.D., of the National College of Deaf Mutes, Washington, D.C., has been appointed Superintendent of the Illinois Deaf and Dumb Institution at Jacksonville.

Alcohol and Suicide.—At the recent international Congress of Psychology Dr. Müller gave an interesting historic sketch of the etiology of self-murder and, by means of an elaborate series of statistics, traced to alcohol the primary cause of its marked increase of late years. The author estimates the number of suicides in Europe at 50,000 a year, thus showing that the evil is increasing at a greater rate than the population. The most favorite month for suicides is June, the least December. Early morning is chosen in preference to the night; the mechanic class furnishes the largest number of subjects, and the peasant the least. Dr. Müller considers brandy the most pernicious form of alcohol, and traces to its influence the blunting of those weapons which in the struggle for life are the most necessary to sustain the conflict.—*Westminster Gazette.*

Disease Contracted "in the Line of Duty."—The United States circuit court of appeals holds, in Rhodes v. United States, March 1, 1897, that although an applicant for a pension might have contracted the disease (here it was alleged to be catarrhal ophthalmia of both eyes) before he entered the service, yet, if he was cured of it, so that he was a sound man when he enlisted, and he subsequently contracted it again while he was in the service and in the line of duty, his statement to the latter effect will not be deemed false. The phrase, "in the line of duty," it further construes to denote that the disease must have been contracted as a result of his service, or as a result or by reason of the fact that he was in the service, making the service the cause of the disease, and not merely a coincident in time.

The Paris Horror.—The medical profession at Paris was sadly involved in the catastrophe at the charity bazar. Dr. Henri Feulard and his daughter and Dr. Rochet were among the victims; while the families of several other physicians, Nélaton, Nitot, Picque, Vimont, Le Sourd and Simon, lost one or more members. Dr. Feulard was a distinguished and popular dermatologist. The *Annales de la Société de Dermatologie*, of which he was secretary, and the reports of the dermatologic congresses contain many valuable contributions from him—always a leading spirit. His early, tragic death at 40 is a great loss to science and shock to his friends. It seems incredible that in the boasted "center of civilization," Paris, such a long time elapsed at the charity bazar horror before an ambulance arrived, the dead lying piled up on the sidewalk and the injured being carried into neighboring houses. It was an hour and a half, according to the *Figaro*, before the special emergency ambulances reached the spot. Among the 1,500 persons in the building there were about four hundred men, organizers of the fête, priests, etc., but all of the men managed to escape except three. Two of these were physicians; one, Feulard, had escaped but returned to save others, and ten of the 120 female victims were the wife, daughter or sister of a physician. The medical fraternity thus furnished a tenth of the victims.

Schlatter the "Healer" Dead.—Denver, June 6.—A dispatch to *The News* from El Paso, Texas, says that Francis Schlatter, who said he performed miraculous cures by divine power, was recently found dead in the foothills of Sierra Madre, thirty-five miles southeast of Casa Grande, in the State of Chihua-

hua, Mexico. He had been fasting, and apparently starved to death.

While in Denver, from August 22 to Nov. 13, 1895, about three hundred thousand people visited Schlatter. Francis Schlatter was an Alsatian peasant, ordinarily educated and intelligent, who came to this country several years ago and settled in Jamesport, Long Island, as a shoemaker. His record in Jamesport was good. He was addicted to no bad habits, made excellent shoes, paid his way and saved money. He was in love with a young woman, who, however, refused to marry him. In the society of the village he was known as a good fellow with queer views, who could "talk like a book." He had "visions," also, and had much to say about the great questions of life and destiny. But at this time he made no pretensions to the possession of any unusual powers. In 1894 he went to New Mexico, and was next heard of as a wonderful "New Messiah," with an extraordinary power of curing diseases. He at once became locally famous. It is said that he was imprisoned in that Territory for falsely claiming divine powers. However that may be he went to Denver in the summer of 1895, and his career there attracted widespread public interest. His presence made Denver the central point to which journeyed thousands of sick and afflicted from all over the country. Schlatter lived in Denver with Alderman Fox, and gave public "treatments" in a hall or theater, at which an admission fee was charged. Then there were "treatments" to all who came to Mr. Fox's house. He became known as the "New Messiah," and "The Healer." He blessed handkerchiefs, and it was said that any one touching these handkerchiefs would be "healed." "Fakirs" did a thriving business in this line. They advertised "blessed handkerchiefs" for the small sum of $1, and raked in hundreds of dollars, until they were arrested by the authorities. Schlatter was wanted as a witness in this case, and many thought that he disappeared from Denver on November 13 because he did not want to testify. He left a note in his handwriting, saying:

Mr. Fox—My mission is finished. The Father takes me away. Goodby. FRANCIS SCHLATTER.

After he disappeared from Denver Schlatter was reported at various times in the mountains of Arizona and New Mexico, and many weird stories were told of his flight. Many remarkable stories were told of cures made by Schlatter in Denver. On the last day he was in the city he "treated" no fewer than five thousand people. He did not profit in a worldly way by his months of self-imposed labors, which were of an extremely fatiguing nature. After the six hours daily spent in standing at the head of the line, clasping the hands of his visitors, he retired to the house, rested for a time and then set to work upon his mail, answering letters until long into the night. That mail is estimated to have amounted toward the end to over forty thousand pieces a day.—*N. Y. Tribune.*

Eulogy on Jerome Cochran, M.D.—Remarks in support of the resolutions offered, relative to the death of Jerome Cochran, M.D. (see JOURNAL, June 12, p. 1147) by W. H. Sanders, M.D., of Alabama.[1]

The resolutions just read recite in very brief words some of the salient points in the character and life-work of a man who impressed himself to an unusual degree upon the times in which he lived.

A career such as his richly repays close study and analysis, for from it may be drawn not only wise lessons, but living inspiration.

A man's claims upon the homage of the world should be measured by two standards; 1. What he was. 2. What he did.

Let us apply these tests to the character and life-work of our deceased colleague, and see what tributes they demand.

Some of you knew him well, and therefore need not be told what he was.

May I be allowed to ask those who did not know him, to imagine a man somewhat below medium stature, and inclined to be stooped and bulky, with a face and head that plainly revealed a solid and well-poised character, with an eye that, though mild, yet unconsciously betrayed the intellectual strength that lay behind it; a man possessed of a mind cast in a heroic mold and one that had enriched itself by extensive conquests from every field of human learning, a man with genius to conceive and power to execute, a man dominated by lofty purposes and inspired by unyielding courage to pursue those purposes against odds however great, a man who stood upon the mountain tops of ethical philosophy and proclaimed in luminous and living words that truth should be sought and right be done for their own sakes. I say, imagine a man endowed with these gifts and powers, and you have a feeble picture of what Jerome Cochran was.

In disposition he was gentle but courageous, unassuming but potential, tenacious of his opinions, but fair-minded and just, and when his judgment so dictated would agree with an enemy or differ from a friend with equal readiness and positiveness. But it was the man's mind that made the man! It stood forth serene and majestic, above prejudice or passion, undaunted by fear and unseduced by favor, and therefore reached its conclusions by the purest processes of logic, and having once reached them was as true to them as the mother to the child.

While in no sense an orator, he was more; a master of clear, lucid and forceful English; always ready for a polemical battle, he was never known to furl his colors or to suffer defeat in the presence of any antagonist. It is no wonder that such a man should have been the author of great conceptions and the architect of great achievements.

Born in Tennessee, reared in Mississippi, Alabama was the immediate theater of what he did. Being a profound student of sociologic science no doubt led him more than a quarter of a century ago, without a model to guide him, or so much as a blazed way through the wilderness of unorganized medicine tha' then existed, to conceive and formulate a scheme for organizing the medical profession of Alabama, which for wisdom of conception, for logical arrangement and completeness of detail, challenges the world for a superior. This scheme sprang full-grown from his fertile and masterful brain, and was not the result of a slow process of evolution, as is usually the case in similar schemes. The first great principle it proclaims is that the interests of the people at large is the object to be sought by organization, and not the interests of the profession. Another great principle it asserts is the members of the medical profession should control in sanitary matters, and so it is in Alabama. Throughout the length and breadth of the State no layman occupies a position on a board of health, the boards being composed of physicians alone. Out of the assertion and maintenance of this principle grows directly another, and one of the most stupendous importance, namely, the radical, practical and eternal divorcement of the sanitary interests of the people from political and commercial influence. Politics and commerce, therefore play no part in disturbing the enforcement of sanitary and quarantine laws in Alabama, a happy state of affairs due solely to the wisdom and foresight of Jerome Cochran.

These principles, with others I can not now mention, have already borne the richest and most beneficent fruits, some of which may be briefly summarized:

1. A coherent and efficient State Medical Association has been built up, with subsidiary and supporting societies in every county of the State, all being endowed in their respective spheres, with important legal and public health functions, and all exercising these functions under a perfectly uniform system of organization.

2. An efficient law for the collection of vital and mortuary statistics.

3. The ethical tone and medical knowledge of the great body of physicians of the State have been markedly elevated and enlarged, thus rendering the doctors more efficient and skilful when called to the bedsides of the sick.

4. Quacks have been almost wholly banished from the State.

5. Scientific principles, according to which quarantine should be proclaimed and practiced, have been formulated, resulting in complete abolition of the old shotgun system, based, as it often was, upon panic, and enforced in a thoroughly unscientific way, a change that has saved thousands upon thousands of dollars to the railroads and commerce of the State.

Were I asked what citizen of Alabama, living or dead, had done most to promote her interests, giving to the word its broadest and deepest signification, conviction and candor would compel me to answer, Jerome Cochran. Did time permit I would undertake to defend this proposition by an array of unimpeachable facts, but I must content myself by saying that he set into motion forces for good that will go on and on, continually gathering strength, until sanitary law shall reign supreme and enlightened medical science shall penetrate into every sick room of the State, with all of the attendant blessings that such a fruition will bring. Neither were the beneficent results of his labors confined within the boundaries of his own State, but, extending beyond, made themselves widely felt wherever there was occasion for the application of the principles of enlightened and advanced sanitary science.

As a member of the Yellow Fever Commission of 1878, and subsequently of a Board of Yellow Fever Experts; as a participant in national sanitary and quarantine conventions; as a member, and sometimes chairman, of the most important com-

[1] Received too late for publication in JOURNAL June 12.

mittees raised by this body, he always exhibited a grasp of mind and familiarity with details that easily placed him among the masters of the profession.

Lest you deem my words born more of enthusiasm than of justice, I beg to quote from some of the numerous replies received from corresponding boards of health when notified of Dr. Cochran's death. The first one from which I quote is by the eminent Secretary of the State Board of Health of this great Commonwealth; Benjamin Lee, who says: "The information of the death of your predecessor, Dr. Jerome Cochran, is received with sincere regret. I had the pleasure of quite an intimate acquaintance with the Doctor, and considered him one of the ablest sanitarians in the country."

The next one from which I quote is from the State Board of Health of Missouri, through its distinguished Secretary, Willis P. King, M.D., and the quotation reads as follows:

"WHEREAS, Dr. Jerome Cochran was one of the leaders in the application of the principles of sanitary science in this country, and has by his able efforts been of great benefit to the human race; therefore, be it

"*Resolved*, That this Board extend to his family and to the profession and people of Alabama, our sincere sympathy and condolence, and join with them in mourning the death of their able physician and eminent citizen."

Could a nobler tribute be paid any man than to proclaim that he had "been a benefactor of the human race?"

At a recent meeting of the State Medical Association of my State it was unanimously and enthusiastically resolved to honor the services of Dr. Cochran by the erection of a monument to his memory, and while we have not ventured to expect that our undertaking would, in any sense, become National in its scope, yet the sympathy and approval of the profession and people of the Nation would be to us extremely grateful.

It is contemplated to erect in the near future a monument to Benjamin Rush, one of the fathers of the profession in America, which, when erected, may be taken to represent the early period of American medicine.

Recently the veil has been drawn from a monument to one of America's greatest surgeons, which may be taken to represent the middle period of American medicine.

May we not hope that the monument to Cochran, when builded, although not National in scope, may be taken to represent the modern period of American medicine—that period characterized by great advances in fraternal organization and in preventive medicine?

At the last meeting of this body he was one of us, but now his voice is hushed in death. Let us endeavor to perpetuate the principles it so ably proclaimed, and to cement in closer and tenderer ties that fellowship he had done so much to promote. To his death he went down with the same imperturbable coolness that had characterized him in every emergency, and without having invoked, until the last week of his life, any aid from that science to which he had been so devoted, to delay the approach of the pale messenger.

He sleeps in one of the cemeteries at Mobile, on that Gulf-shore he had done so much to protect from invasion by disease, and may we not hope that when awakened to appear before the final judge, the interceding angel will plead his great services for his fellowmen, and that like Abou Ben Adhem, "his name will lead all the rest."

New York.

ARTICLES OF INCORPORATION for the Hospital Saturday and Sunday Association and the New York Medical League were curiously enough signed on about the same day. May not congratulations be offered to both without suspicion of duplicity?

THE GRADUATING CLASS of the College of Physicians and Surgeons, New York, numbered only forty members. The class of 1847 exceeded this count by seventeen.

Hospitals.

YARMOUTH, Nova Scotia, will celebrate Queen Victoria's Jubilee by establishing a Victoria Hospital.——Colorado Springs, Colo., is to have a $10,000 hospital for the Union Printers' Home.——The new City Hospital, Kenton, Ohio, was opened June 2.——The Buffalo (N. Y.) German Hospital receives $5,000 from the estate of the late Gerhard Lang.——The hospital building recently added to St. Christopher's Home at Dobbs-Ferry-on-the-Hudson was dedicated June 5. It is the gift of the Epworth League of the New York District of the Methodist Episcopal church.——St. Mark's Hospital, New York city, treated 3,430 indoor patients from March 1,1896 to Nov. 1, 1897. Of these 2,533 were cured, 635 improved and 67 died. Outdoor patients were treated to the number of 2,666. Of 1,200 operations performed during the year, 122 were laparotomies.

Societies.

THE NINETEENTH semi-annual session of the Southern California Medical Society was held at Santa Ana, June 9.——The Fox River Valley Medical Association held its sixty-fourth semi-annual meeting at Elgin, Ill., June 10.——The Vigo Medical Society held a meeting at Terre Haute, Ind., June 3.——The Des Moines Valley Medical Association met at Ottumwa, Iowa, June 17.——The annual session of the Maine Medical Association closed June 4. The following officers were elected: President, Dr. Wallace K. Oakes of Auburn; vice-presidents, Drs. E. A. Thompson of Dover, G. M. Woodcock of Bangor; corresponding secretary, Dr. H. B. Palmer of Farmington; recording secretary, Dr. Charles D. Smith of Portland; treasurer, Dr. A. S. Thayer of Portland; censors, Drs. W. B. Moulton of Portland, F. C. Thayer of Waterville, W. J. Maybury of Saco, E. M. Fuller of Bath, A. King of Portland.——The State Medical Association convened at Moreland City, N. C., June 9.——The 116th annual meeting of the Massachusetts Medical Society was held in Boston, June 8 and 9.——The Grand Rapids (Mich.) Medical and Surgical Society held a regular meeting June 7.——The St. Louis Medical Society of Missouri held a meeting June 12.——The Central Missouri District Medical Society met at Jefferson City, June 4.——The twenty-second annual session of the Grand River Medical Society was held at Chillicothe, Mo., June 4 and 5.——The Jasper County Medical Society met at Carthage, Mo., June 2.——The Erie County Medical Society met at Buffalo, N. Y., June 7.——The thirteenth annual meeting of the Third District branch of the New York State Medical Association was held at Norwich, June 8.——The Medico-Chirurgical Society of Central New York convened at Syracuse, June 3.——The Elmira (N. Y.) Academy of Medicine held a regular meeting June 2.

THE PUBLIC SERVICE.

Navy Changes. Changes in the Medical Corps of the U. S. Navy for the week ending June 12, 1897.

Surgeon M. H. Simons, ordered to the "Iowa" June 16.
Washington B. Grave, commissioned Asst. Surgeon from June 3.
P. A. Surgeon R. P. Crandall, detached from naval hospital, Norfolk, June 14, and ordered to the "Iowa" June 16.
Medical Inspector W. G. Farwell, detached from Special duty marine rendezvous, Philadelphia, and continue other special duty.
Surgeon D. O. Lewis, after completion of examining board, naval academy, ordered to the marine rendezvous, Philadelphia.

CHANGE OF ADDRESS.

Broughton, Geo. A., from Pomona to Chino, Cal.
Babcock, Robert H., from 34 Washington St. to 103 State St., Chicago.
Curry, William, from Nebraska City to Palmyra, Neb.
Cottrell, D., from 200 N. Clark St. to 279 E. Indiana St., Chicago.
Clements, Joseph, from 1719 Holly to 1113 W. 17th St., Kansas City, Mo.
Derwent, A. E., from Chicago to Elma, Ill.
Dalton, M., from Summerfield, Ill., to Fenton, Mo.
Gresens, H. C. W., from 688 Fullerton to 821 Lincoln Ave., Chicago.
Howard, Kate J., from 334 O'Farrell St. to 1410 Larkin St., San Francisco, Cal.
Korn, Abraham, from 734½ to 741 S. Halsted St., Chicago.
Loomis, M. M., from Chicago to Cascade, Ia.
Leahy, M. M., from 87 Washington St., to 6301 Wentworth Ave., Chicago.
Matheson, J. S., from 205 E. Ohio st. to 4050 Michigan Terrace, Chicago.
Rollins, F. H., from Chicago, Ill., to White Rock, S. Dak.
Taylor, P. K., from New York to Mineville, Essex Co., N. Y.
Wysor, J. C., from Montgomery to 82 Capitol St., Charleston, W. Va.

LETTERS RECEIVED.

Ascher, J. A., Freeport, Ill.; Ammonol Chemical Co., The, New York; Arlington Chemical Co., The, Yonkers, N. Y.
Brayton, A. W., Indianapolis, Ind.; Bowles, Marion K., Joliet, Ill.; Biddle, G. J., Philadelphia; Bischoff, C. & Co., New York; Battle Creek Health Food Co., Battle Creek, Mich.
Collins, R. G., Chicago; Colorado Sanitarium, Boulder, Colo.; College of Medicine, Syracuse University, Syracuse, N. Y.; Crumrine, B. F., San Antonio, Tex.; Chambers, J. H. & Co., St. Louis, Mo.
Elmer, H. W., Bridgeton, N. J.
Foster, John M., Denver, Colo.; Ferguson & Goodnow, Chicago; Fessenden Mfg. Co., The, Pittsburg, Pa.
Grover, W. A., Berkely, Cal.; Graham, C. C., Baxter, Iowa; Gryttenholm, K., Zumbrota, Minn.; Gould, George M., Philadelphia.
Harris, J. E., Nashville, Tenn.; Hummel, A. L., Advertising Agency, New York; Hightower, L. H., Teoc, Texas.
Korn, Abraham, Chicago; Kenyon News and Postal Sub. Co., Chicago.
Lesau, C. T., Mt. Ayr, Iowa.
Medical College of Georgia, Augusta, Ga.; Merrick, M. B., Passaic, N. J.; Miller, Aaron B., Syracuse, N. Y.; Mumaw, H. A., Elkhart, Ind.; Moody, Wm., San Francisco, Cal.; Mason, R. Osgood, New York; Mitchell, C. W., Baltimore, Md.; Munson, Edward L., Fort Assinniboine, Mont.
Nihart, G. W., Mendon Mich.; Nelson, Wolfred, New York.
Pusey, C. M., Chicago.
Randall, B. A., Philadelphia; Russell, J. J., Chicago.
Saunders, L. D., Paducah, Ky.; State University of Iowa, Iowa City, Iowa; Sharp & Dohme, New York; Stearns, F. & Co., Detroit, Mich. Schottler, G. J., Dexter, Minn.
The Medical Council, Philadelphia.
West, Jacob S., San Angelo, Texas; Weis, E. W., Ottawa, Ill.
Zorger, W. H., Champaign, Ill.